Phytoplankton Productivity and Nutrient Measurements at the Edge of the Continental Shelf off Nova Scotia Between April 28 and May 11, 1977

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Fisheries and Marine Service

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TABLE OF CONTENTS

ABSTRACT/SOMMAIRE ---------- iv

INTRODUCTION ---------- 1

SAMPLING ---------- 1

METHODS ---------- 1

a) *Productivity* ---------- 1

b) *Chlorophyll a* ---------- 1

c) *Light intensity* ---------- 1

d) *Light saturation parameters* ---------- 1

e) *Nutrients* ---------- 1

f) *Incident radiation* ---------- 1

ACKNOWLEDGEMENTS ---------- 1

REFERENCES ---------- 2

INORGANIC NUTRIENT TABLES ---------- 4

SPECIFIC PRODUCTION RATE TABLES ---------- 31

FIGURES ---------- 66

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ABSTRACT

Irwin, B., W.G. Harrison, K.L. Denman and T. Platt. 1978. Phytoplankton productivity and nutrient measurements at the edge of the continental shelf off Nova Scotia between April 28 and May 11, 1977. Fish. Mar. Serv. Data. Rep. No. 62. 90 pp.

Series of primary production experiments and related nutrient determinations were made on CSS Hudson during a cruise to the edge of the Nova Scotian Shelf over the period 28 April to 11 May 1977. In this report we make available the raw data and also the fitted light saturation parameters with confidence limits.

SOMMAIRE

Irwin, B., W.G. Harrison, K.L. Denman and T. Platt. 1978. Phytoplankton productivity and nutrient measurements at the edge of the continental shelf off Nova Scotia between April 28 and May 11, 1977. Fish. Mar. Serv. Data Rep. No. 62. 90 pp.

Durant la période de 28 avril au 11 mai 1977, des series d'expériences sur la detérmination de la production primaire et des sels nutritifs furent réalisées à bord du CSS Hudson, le long de la marge du plateau continental, au large de la Nouvelle Écosse. Dans le présent rapport nous présentons les données brutes sur ces expériences, ansi que les paramètres avec leur intervalles de confiance qui furent calculés pour représenter les courbes de production en fonction de la lumière.

INTRODUCTION

This is the second in a series of data reports presenting the results of photosynthesis experiments on natural phytoplankton populations of the Scotian Shelf and its adjacent oceanic waters. In the first study (Denman et al. 1977) an area between longitude 63°00'W and 64°00'W and latitude 41°30'N and 43°30'N was studied. In this present study, a series of transects along longitude 63°25'W between 42°00'N and 43°00'N were occupied. The northern limit of this transect is approximately 90 nautical miles south of Halifax (Fig. 1).

Water samples were collected between 28 April and 11 May 1977 from CSS Hudson. A sharp thermal front was located on the surface at approximately 42°40'N. Transects across this feature were occupied on 4 occasions - 30 April to 1 May, 2 May, 3 May and 7 May. A 26 hour station was occupied at 42°40'N 63°25'W from 2100Z 4 May to 2300Z on 5 May. This cruise was a joint effort between the Marine Ecology Laboratory and the Metrology Division of the Atlantic Oceanographic Laboratory.

In this report we make available the results of these experiments, the fitted parameters and their confidence intervals, to the light saturation curves, and the values of some measured environmental variables.

SAMPLING

Samples for light saturation were collected with a 30 l Niskin bottle. All samples were filtered through 153 μ nitex to remove larger herbivores and were dispensed through black polyethylene tubing into darkened carboys to prevent light-shocking.

METHODS

a) *Productivity*:

The ^{14}C method as described in Strickland and Parsons (1972) was used. Aliquots were dispensed into 20 clear and 2 dark 125 ml pyrex glass bottles. 1 ml of sodium bicarbonate ^{14}C containing approximately 8 μci was added to each bottle. The bottles were placed in specially constructed incubators (Jassby and Platt 1976) and incubated for 3 hours. The temperature inside the incubators was regulated by pumping sea water from a depth of 3 m through them.

At the end of the incubation period the samples were filtered immediately onto 2.5 cm, 0.8 μ pore size membrane filters. The filters were dried in a dessicator, exposed to HCl fumes for 10 minutes and counted in a scintillation counter. The counting efficiency was determined by the channels ratio method.

b) *Chlorophyll a:*

Replicate samples were filtered onto glass fibre filters. The chlorophyll concentration was measured using the fluorometric technique of Yentsch and Menzel (1963) as modified by Holm-Hansen et al. (1965). A model III Turner fluorometer was used and it was calibrated with pure chlorophyll *a* (Sigma Chemicals).

c) *Light intensity:*

The total radiation in each compartment of the incubators was measured with an Eppley 40 Junction pyranometer. The light quality was measured with an ISCO spectroradiometer.

d) *Light saturation parameters:*

Production rates were normalised to unit chlorophyll *a* and were plotted against light intensity. Three parameters were calculated (Platt et al. 1977; Jassby and Platt 1976).

1) the initial slope, α , by linear regression analysis of the linear portion of the plot

2) the respiration R^B , the intercept of the linear portion of the y-axis of the plot

3) the assimilation number P_m^B , by a non-linear least squares fit of the function $P^B = P_m^B \tanh(\alpha I / P_m^B) - R^B$ to the entire data set for a given sample

e) *Nutrients:*

Five inorganic nutrients were routinely measured in duplicate. They were nitrate, nitrite, ammonia, inorganic phosphate and silicate and were measured using the following colorometric methods:

1) Nitrate - the sum of nitrate plus nitrite by the cadmium amalgam method described in Strickland and Parsons (1972)

2) Nitrite - the method as described in Strickland and Parson (1972)

3) Ammonia - the phenolhypochlorite method as described by Solórzano (1969)

4) Inorganic phosphate - the method as described by Murphy and Riley (1962)

5) Silicate - the method as described by Mullin and Riley (1955)

f) *Incident radiation:*

Total incident radiation was measured on an Eppley 40 junction pyranometer. The output of the pyranometer was recorded on a strip chart recorder and the hourly and daily radiation was measured with a planimeter.

ACKNOWLEDGEMENTS

We thank P. Dickie, P. Evans, V. Evans, M. Hodgson and D. Rudderham for their excellent

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Table 1. Total radiation for each hour ending at (ADT).

(ADT)	28 April	29 April	30 April	1 May	2 May	3 May
06						
07			0.8	3.2	4.8	1.3
08	2.7	0.8	12.0	12.8	21.3	2.1
09	6.1	2.7	28.5	21.3	33.6	5.6
10	10.7	9.9	41.3	38.1	45.3	21.9
11	13.1	27.7	50.1	56.5	57.6	44.0
12	18.4	32.8	52.8	66.7	64.5	62.4
13	38.1	33.3	60.9	74.7	73.3	65.6
14	44.5	50.7	63.7	69.3	73.3	62.4
15	73.3	50.7	65.3	70.7	66.7	67.2
16	61.3	49.6	48.5	56.8	61.3	61.3
17	40.3	37.3	45.3	53.3	52.8	51.2
18	11.5	24.0	25.1	38.7	39.7	43.5
19	11.5	11.7	13.3	23.5	29.3	28.0
20	1.3	0.5	9.1	10.1	14.9	13.6
21				1.9	2.1	2.7
TOTAL	332.8	331.7	516.6	597.6	640.5	532.8

(ADT)	4 May	5 May	6 May	7 May	8 May
06					0.8
07	4.8	3.2	4.5	4.3	5.3
08	24.8	12.8	11.5	2.1	21.3
09	31.7	23.5	21.6	6.7	33.9
10	54.1	38.1	24.0	9.6	46.1
11	64.3	59.5	48.0	22.9	56.8
12	70.1	67.2	29.3	27.2	65.6
13	75.5	74.4	41.3	29.3	74.1
14	73.3	69.3	26.9	22.1	73.1
15	72.0	69.6	16.0	19.5	68.3
16	62.7	60.3	50.9	20.3	58.9
17	51.4	55.5	22.7	23.7	54.1
18	41.1	38.7	16.3	15.5	41.9
19	23.2	24.8	8.8	10.7	30.9
20	12.5	10.9	5.3	5.6	17.6
21	2.7	2.7		1.1	4.3
TOTAL	664.4	610.5	327.1	220.6	653.0

Radiation measured in langleys.

INORGANIC NUTRIENTS

STATION No. H-2

Lat.: 42°10'N
Date: 30/04/77

Long.: 63°25'W
Time(A.D.T.): 1300

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.24	1.80	0.08	0.43	1.97	2.85
10	0.35	1.91	0.09	0.24	2.02	3.01
20	0.35	1.29	0.07	0.29	1.00	2.90
30	0.33	2.31	0.11	0.52	2.40	2.52
40	0.37	4.89	0.33	0.61	2.92	0.94
50	0.59	7.75	0.49	0.46	3.91	0.56
75	0.73	10.01	0.16	0.91	5.55	0.17
100	0.81	8.47	0.06	0.19	6.09	0.08
125	0.84	11.29	0.04	0.30	6.07	0.06
150	0.71	9.86	0.03	0.72	5.68	0.05
175	0.75	11.03	0.05	0.45	5.83	0.06
200	1.02	13.85	0.04	0.21	8.00	0.03
250	1.20	15.56	0.02	0.40	11.44	0.03

STATION No. H-3

Lat.: 42°20'N
Date: 30/04/77

Long.: 63°25'W
Time(A.D.T.): 1730

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.32	3.12	0.26	1.02	2.77	2.75
10	0.41	2.37	0.29	0.24	1.77	2.52
20	0.36	3.93	0.20	0.40	2.80	2.95
30	0.58	9.66	0.36	1.25	3.41	0.22
40	0.75	9.01	0.52	0.52	4.84	0.11
50	0.80	10.74	0.27	0.23	5.50	0.05
75	0.79	11.43	0.13	0.30	4.77	0.08
100	0.82	8.44	0.08	0.48	5.62	0.08
125	0.85	8.00	0.06	0.29	5.19	0.08
150	0.80	6.89	0.04	0.10	6.41	0.03
175	0.78	12.01	0.04	0.12	4.30	0.03
200	0.88	9.31	0.04	0.28	6.02	0.05
250	1.37	12.62	0.03	0.10	11.73	0.02

STATION No. H-4

Lat.: 42°30'N
Date: 30/04/77

Long.: 63°25'W
Time(A.D.T.): 2010

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.36	3.33	0.25	0.31	3.09	2.75
10	0.44	4.24	0.27	0.25	2.68	2.90
20	0.31	3.25	0.26	0.46	2.42	3.21
30	1.55	5.94	0.27	0.23	3.46	2.28
40	0.41	4.93	0.28	0.35	4.42	2.07
50	0.54	7.51	0.36	0.09	7.95	0.82
75	0.60	9.67	0.19	0.01	3.70	0.17
100	0.61	9.32	0.27	0.31	5.54	0.14
125	0.55	9.84	0.26	0.15	5.77	0.14
150	0.61	9.86	0.10	0.43	5.65	0.09
175	0.77	12.45	0.06	0.38	6.51	0.03
200	0.76	9.53	0.08	0.26	8.26	0.02
250	0.99	10.37	0.08	0.39	9.69	0.03

STATION No. H-5

Lat.: 42°35'N
Date: 30/04/77

Long.: 63°25'W
Time(A.D.T.): 2340

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.29	1.66	0.12	0.32	1.73	4.20
10	0.32	1.98	0.13	0.41	2.14	4.51
20	0.35	2.72	0.18	0.62	2.34	4.20
30	0.47	4.69	0.30	0.36	2.88	2.28
40	0.42	4.89	0.28	0.35	2.61	2.18
50	0.41	7.04	0.48	0.37	3.76	0.76
75	0.62	8.96	0.29	0.32	4.75	0.15
100	0.65	9.94	0.15	0.50	5.26	0.11
125	0.52	6.99	0.34	0.21	4.82	0.10
150	-	-	-	-	-	-
175	0.70	10.27	0.09	0.33	-	0.08
200	0.76	9.91	0.05	0.37	3.14	0.06
250	1.24	16.77	0.03	0.28	9.08	0.05

STATION No. H-6

Lat.: 42°40'N
Date: 01/05/77

Long.: 63°25'W
Time(A.D.T.): 0212

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.32	1.17	0.09	-	1.27	2.28
10	0.29	1.24	0.07	0.25	1.63	3.73
20	0.30	1.17	0.08	0.27	1.65	3.94
30	0.40	3.09	0.16	0.41	2.56	2.41
40	0.40	2.94	0.17	0.49	2.67	2.64
50	0.48	4.44	0.28	1.04	3.02	1.31
75	0.72	9.57	0.38	0.14	4.41	0.08
100	0.69	9.34	0.13	0.13	4.34	0.08
125	0.64	7.34	0.09	0.05	4.67	0.06
150	0.77	9.78	0.08	0.09	4.77	0.08
175	0.79	9.96	0.06	0.32	5.25	0.06
200	0.79	11.24	0.06	0.19	5.43	0.03
250	1.09	8.43	0.04	0.27	6.68	0.02

STATION No. H-7

Lat.: 42°45'N
Date: 01/05/77

Long.: 63°25'W
Time(A.D.T.): 0440

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.23	0.48	0.09	0.30	0.39	0.88
10	0.28	0.38	0.07	0.32	0.35	1.51
20	0.26	1.67	0.08	0.36	1.42	1.71
30	0.48	5.26	0.16	0.78	3.55	0.91
40	0.54	7.11	0.17	0.34	3.93	0.56
50	0.56	8.02	0.28	0.14	3.95	0.28
75	0.74	8.51	0.38	0.23	5.57	0.15
100	0.79	11.04	0.13	0.19	5.30	0.11
125	1.10	11.03	0.09	0.10	6.25	0.05
150	0.87	10.68	0.08	0.20	6.35	0.03
175	0.79	10.14	0.06	0.03	5.74	0.06
200	1.09	11.98	0.06	0.34	5.53	0.03
250	1.19	9.45	0.04	0.61	10.37	0.03

STATION No. H-8

Lat.: 42°50'N
Date: 01/05/77

Long.: 63°25'W
Time(A.D.T.): 0647

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.30	0.63	0.05	0.73	0.41	0.25
10	0.38	0.52	0.03	0.79	0.52	0.24
20	0.45	0.57	0.04	1.43	0.40	0.42
30	0.52	1.62	0.12	1.79	1.40	1.34
40	0.57	5.43	0.24	1.07	2.96	1.24
50	0.59	6.85	0.47	0.70	3.46	0.42
75	0.82	10.91	0.13	2.05	5.60	0.11
100	0.96	12.57	0.07	0.49	6.58	0.08
125	0.81	10.91	0.06	0.39	4.89	0.05
150	0.92	9.37	0.06	0.39	5.14	0.06
165	1.49	11.98	0.10	0.41	12.47	0.11

STATION No. H-9

Lat.: 43°00'N
Date: 01/05/77

Long.: 63°25'W
Time(A.D.T.): 0930

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.28	0.36	0.07	1.88	0.32	0.12
10	0.25	0.18	0.04	1.39	0.86	0.08
30	0.35	0.35	0.05	1.73	0.30	0.37
20	0.75	3.52	0.08	-	1.15	0.36
40	0.99	8.75	0.11	1.23	1.80	0.42
50	1.08	13.42	0.13	0.98	5.67	0.26
75	1.06	15.60	0.06	1.41	8.72	0.14
100	1.45	13.73	0.11	1.25	16.18	0.18
125	1.48	17.74	0.13	0.93	15.76	0.18
150	1.47	16.99	0.12	0.64	13.51	0.09

STATION No. H-10

Lat.: 42°45'N
Date: 02/05/77

Long.: 63°25'W
Time(A.D.T.): 0715

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.19	0.45	0.05	1.24	1.09	2.69
10	0.02	0.25	0.04	0.86	0.88	3.01
20	0.18	2.31	0.11	0.54	1.73	3.42
30	0.46	6.54	0.49	0.71	4.02	0.94
40	0.47	5.22	0.58	0.58	4.05	0.48
50	0.60	11.74	0.52	0.16	5.01	0.18
75	0.71	10.66	0.10	1.00	4.45	0.11
100	0.53	10.96	0.03	0.14	4.58	0.08

STATION No. H-11

Lat.: 42°40'N
Date: 02/05/77

Long.: 63°25'W
Time(A.D.T.): 0854

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.24	0.84	0.07	0.53	1.40	4.20
10	0.33	2.48	0.18	0.32	2.17	3.21
20	0.47	5.42	0.37	0.38	2.75	1.24
30	0.51	7.35	0.57	0.46	3.57	0.37
40	0.61	7.79	0.25	0.23	3.97	0.14
50	0.59	6.81	0.08	0.15	3.79	0.14
75	0.54	9.36	0.13	0.39	4.01	0.15
100	0.61	8.61	0.16	0.29	3.71	0.12

STATION No. H-12

Lat.: 42°35'N
Date: 02/05/77

Long.: 63°25'W
Time(A.D.T.): 1049

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.22	1.48	0.06	0.46	2.08	5.44
10	0.22	1.15	0.07	0.15	2.22	4.20
20	0.25	1.33	0.07	0.30	1.95	5.18
30	0.52	5.02	0.34	0.28	3.36	2.07
40	0.51	5.31	0.24	0.55	1.86	1.25
50	0.53	7.19	0.33	0.31	3.44	1.10
75	0.65	9.74	0.05	0.10	4.41	0.14
100	0.72	8.76	0.01	0.21	3.81	0.08

STATION No. H-13

Lat.: 42°30'N
Date: 02/05/77

Long.: 63°25'W
Time(A.D.T.): 1210

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.26	2.50	0.12	0.17	2.78	4.40
10	0.30	2.77	0.15	0.68	3.16	4.87
20	0.31	2.56	0.20	0.22	2.59	4.76
30	0.32	3.11	0.21	0.33	3.09	2.93
40	0.42	4.09	0.22	0.52	3.33	1.14
50	0.57	6.11	0.45	0.54	3.86	0.49
75	0.79	9.26	0.15	0.19	4.53	0.11
100	0.74	9.38	0.11	0.18	4.98	0.12

STATION No. H-14

Lat.: 42°45'N
Date: 03/05/77

Long.: 63°25"W
Time(A.D.T.): 0550

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.05	0.48	0.01	0.45	1.27	3.83
10	0.14	0.24	0.03	0.36	1.65	4.07
20	0.20	2.36	0.12	0.34	2.93	4.51
30	0.23	4.15	0.26	0.47	3.38	2.36
40	0.36	5.33	0.39	0.59	3.55	1.45
50	0.40	6.26	0.53	0.70	3.64	0.65
75	0.33	6.99	0.46	0.38	4.43	0.57
100	0.55	6.56	0.11	0.14	4.63	0.12

STATION No. H-15

Lat.: 42°40'N
Date: 03/05/77

Long.: 63°25'W
Time(A.D.T.): 0744

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.28	1.37	0.09	0.16	2.22	5.02
10	0.31	1.96	0.08	0.17	2.33	4.76
20	0.26	2.36	0.09	0.14	1.50	4.35
30	0.39	3.09	0.20	0.28	1.83	3.37
40	0.47	6.45	0.25	0.05	3.17	1.92
50	0.65	9.21	0.28	0.06	4.22	0.46
75	0.64	9.94	0.17	0.14	-	0.12
100	0.69	9.78	0.08	0.15	3.17	0.12

STATION No. H-16

Lat.: 42°35'N
Date: 03/05/77

Long.: 63°25'W
Time(A.D.T.): 0840

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.18	2.75	0.19	0.51	3.35	4.30
10	0.23	3.59	0.18	0.19	3.15	4.14
20	0.10	3.34	0.22	0.04	3.17	4.25
30	0.23	4.86	0.26	1.24	3.21	2.28
40	0.07	6.52	0.34	0.59	4.24	0.91
50	0.36	8.16	0.33	0.45	4.35	0.51
75	0.51	10.60	0.06	0.03	5.16	0.12
100	0.51	11.15	0.07	0.11	5.67	0.09

STATION No. H-17

Lat.: 42°30'N
Date: 03/05/77

Long.: 63°25'W
Time(A.D.T.): 1050

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.34	2.60	0.12	0.40	1.95	3.83
10	0.30	1.64	0.09	0.43	1.19	3.89
20	0.30	2.20	0.09	0.33	1.48	4.04
30	0.36	2.87	0.15	0.22	1.93	3.30
40	0.47	5.46	0.39	0.59	3.20	0.86
50	0.64	6.15	0.41	0.32	4.65	0.26
75	0.65	10.15	0.07	0.18	2.55	0.12
100	0.83	8.34	0.15	0.40	5.51	0.14

STATION No. H-18A

Lat.: 42°40'N
Date: 04/05/77

Long.: 63°25'W
Time(A.D.T.): 2015

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.14	1.04	0.08	0.29	2.06	3.11
10	0.09	0.47	0.05	0.76	1.72	3.27
20	0.07	1.00	0.07	0.58	1.91	3.32
30	0.06	3.46	0.23	0.59	3.25	3.32
40	0.24	4.84	0.48	0.44	3.73	1.24
50	0.39	6.48	0.25	1.84	3.17	0.82
75	0.56	8.91	0.11	0.00	5.37	0.09
100	0.63	7.51	0.09	0.00	5.18	0.08

STATION No. H-19A

Lat.: 42°40'N
Date: 04/15/77

Long.: 63°25'W
Time(A.D.T.): 2300

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.26	0.56	0.05	0.31	1.12	2.59
10	0.32	1.01	0.09	0.37	1.43	2.75
20	0.33	2.06	0.17	0.21	2.08	2.85
30	0.47	4.84	0.38	0.20	3.30	1.92
40	0.75	7.17	0.32	0.52	4.84	0.59
50	0.76	9.22	0.10	0.18	4.70	0.14
75	0.79	11.09	0.06	0.03	5.31	0.09
100	0.80	9.17	0.05	0.09	5.64	0.06

STATION No. H-20A

Lat.: 42°40'N
Date: 05/05/77

Long.: 63°25'W
Time(A.D.T.): 0200

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.31	0.76	0.09	0.38	1.09	2.59
10	0.29	0.33	0.08	0.40	0.70	2.70
20	0.33	2.12	0.18	0.39	1.83	3.00
30	0.44	4.82	0.33	0.55	3.08	2.23
40	0.71	9.94	0.44	0.62	4.73	0.34
50	0.71	9.88	0.16	0.34	4.77	0.56
75	0.77	10.29	0.06	0.19	4.84	0.09
100	0.78	10.19	0.04	0.11	5.47	0.06

STATION No. H-21A

Lat.: 42°40'N
Date: 05/05/77

Long.: 63°25'W
Time(A.D.T.): 0800

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.27	0.47	0.08	0.09	1.33	3.00
10	0.30	0.50	0.08	0.11	1.08	2.69
20	0.38	3.32	0.26	0.33	2.88	2.64
30	0.53	5.80	0.45	0.26	3.42	1.09
40	0.57	7.19	0.49	0.34	3.76	0.62
50	0.64	9.08	0.23	0.11	4.17	0.32
75	0.69	8.70	0.07	0.03	4.68	0.11
100	0.77	10.79	0.06	0.00	5.21	0.09

STATION No. H-22A

Lat.: 42°40'N
Date: 05/05/77

Long.: 63°25'W
Time(A.D.T.): 1200

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.28	0.65	0.09	0.34	1.41	3.06
10	0.33	0.59	0.08	0.41	1.28	3.50
20	0.26	1.37	0.17	0.49	2.14	5.65
30	0.40	4.19	0.36	0.40	3.06	1.81
40	0.71	11.09	0.49	0.27	4.58	0.20
50	0.81	8.38	0.27	0.67	5.10	0.12
75	0.64	7.27	0.08	0.10	3.29	0.09
100	0.76	11.17	0.04	0.22	5.02	0.06

STATION No. H-23A

Lat.: 42°40'N
Date: 05/05/77

Long.: 63°25'W
Time(A.D.T.): 1615

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.28	0.19	0.08	0.50	1.95	1.86
10	0.28	0.47	0.09	0.18	1.35	4.25
20	0.34	2.12	0.15	0.17	1.89	4.30
30	0.50	5.31	0.36	0.22	3.54	1.60
40	0.63	11.31	0.34	0.31	5.27	0.12
50	0.76	6.96	0.30	0.57	4.37	0.12
75	0.71	9.08	0.09	0.10	4.37	0.11
100	0.80	10.15	0.08	0.07	5.81	0.05

STATION No. H-24A

Lat.: 42°40'N
Date: 05/05/77

Long.: 63°25'W
Time(A.D.T.): 2000

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.25	0.38	0.05	0.42	1.13	2.49
10	0.22	0.22	0.06	0.29	0.93	3.63
20	0.45	5.14	0.41	0.45	2.96	1.55
30	0.58	7.93	0.50	0.25	3.97	0.83
40	0.78	10.95	0.39	0.37	4.96	0.14
50	0.80	10.38	0.21	0.32	5.30	0.12
75	0.71	9.17	0.06	0.41	4.21	0.09
100	0.78	10.10	0.07	0.24	5.11	0.09

STATION No. H-25

Lat.: 42°35'N
Date: 07/05/77

Long.: 63°25'W
Time(A.D.T.): 0725

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.35	2.96	0.18	1.00	2.90	4.66
10	0.36	2.97	0.18	0.26	2.82	2.67
20	0.36	2.42	0.17	0.26	1.96	3.52
30	0.59	5.56	0.23	0.31	3.78	0.96
40	0.51	6.25	0.46	0.23	3.50	0.71
50	0.56	7.65	0.41	0.10	4.27	0.56
75	0.70	10.44	0.12	0.05	4.37	0.08
100	0.73	10.19	0.07	0.00	4.48	0.06

STATION No. H-26

Lat.: 42°40'N
Date: 07/05/77

Long.: 63°25'W
Time(A.D.T.): 0820

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.40	2.50	0.17	0.29	2.36	4.25
10	0.33	2.22	0.13	0.32	2.74	4.30
20	0.31	2.32	0.13	0.22	2.83	4.09
30	0.30	2.34	0.15	0.31	2.96	4.09
40	0.34	2.80	0.16	0.30	3.19	3.00
50	0.37	3.15	0.18	0.23	3.17	3.11
75	0.69	9.77	0.06	0.53	5.16	0.17
100	0.87	11.71	0.03	0.48	6.19	0.06

STATION No. H-27

Lat.: 42°45'N
Date: 07/05/77

Long.: 63°25'W
Time(A.D.T.): 0920

Depth m	Phosphate mg at m^{-3}	Nitrate mg at m^{-3}	Nitrite mg at m^{-3}	Ammonia mg at m^{-3}	Silicate mg at m^{-3}	Chlorophyll mg m^{-3}
0	0.28	0.45	0.03	0.11	1.29	3.78
10	0.26	0.11	0.02	0.16	1.20	2.52
20	0.25	1.43	0.09	0.12	1.94	4.71
30	0.37	2.98	0.19	0.33	2.34	2.90
40	0.30	3.03	0.19	0.35	2.46	3.21
50	0.51	7.07	0.34	0.18	3.42	0.70
75	0.70	8.74	0.05	0.29	2.58	0.14
100	0.68	10.00	0.03	0.36	4.01	0.09

SPECIFIC PRODUCTION RATES

STATION No. H-2

Lat.: 42°10'N
Date: 30/04/77

Long.: 63°25'W
Time(A.D.T.): 1300

Depth: 10 m

Water Temperature: 10.0°C

Incubator Temperature: 11.5°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
2.26	196.4	2.09	141.1
2.27	89.6	2.36	81.6
2.11	40.4	2.02	35.5
1.36	20.6	1.40	20.8
0.72	10.5	0.82	11.2
0.41	5.0	0.45	5.7
0.16	3.1	0.20	3.7
0.04	1.8	0.07	1.9
0.01	1.2	0.03	1.2
		0.01	0.9

Fitted Values		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.07	0.07	0.07
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.04	-0.07	0.00
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	2.41	2.31	2.52

STATION No. H-2

Lat.: 42°10N
Date: 30/04/77

Long.: 63°25'W
Time(A.D.T.): 1300

Depth: 30 m

Water Temperature: 10.8°C

Incubator Temperature: 11.5°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
2.67	145.7
2.54	71.4
2.48	33.4
2.06	17.2
1.17	9.0
0.62	4.5
0.37	2.7
0.16	1.8
0.07	1.4
0.01	0.9

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
2.38	126.9
2.52	49.3
2.44	23.2
1.81	14.2
1.04	7.0
0.45	3.8
0.30	2.5
0.13	1.7
0.03	1.1

Fitted Values

		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.15	0.14	0.16
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.11	-0.15	-0.06
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	2.75	2.66	2.83

STATION No. H-4

Lat.: 42°20'N
Date: 30/04/77

Long.: 63°25'W
Time(A.D.T.): 2010

Depth: 10 m

Water Temperature: 12.5°C

Incubator Temperature: 13.0°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
0.97	184.2	0.90	136.4
0.98	87.4	0.97	83.5
0.93	35.6	0.97	34.6
0.78	16.8	0.84	19.1
0.50	8.4	0.56	9.7
0.29	4.4	0.37	5.1
0.14	2.7	0.18	3.4
0.04	1.5	0.07	1.7
0.01	1.1	0.03	1.1
		0.01	1.0

Fitted Values		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.08	0.08	0.09
P^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.07	-0.10	-0.06
P^B_m(mg C(mg Chl a)$^{-1}$hr^{-1})	1.03	1.01	1.06

STATION No. H-4

Lat.: 42°10'N
Date: 30/04/77

Long.: 63°25'W
Time(A.D.T.): 2010

Depth: 30 m

Water Temperature: 12.5°C

Incubator Temperature: 13.0°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
0.94	170.2	0.93	125.0
0.79	78.4	1.00	45.3
0.82	40.9	1.02	20.1
0.68	18.0	0.86	11.0
0.46	9.7	0.53	6.4
0.28	4.9	0.31	3.6
0.18	2.7	0.16	2.6
0.08	2.1	0.05	1.6
0.03	1.5	0.02	1.0
0.01	1.1	0.01	0.9

Fitted Values		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.08	0.06	0.10
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.07	-0.12	-0.02
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	0.98	0.89	1.06

STATION No. H-7

Lat.: 42°45'N
Date: 01/05/77

Long.: 63°25'W
Time(A.D.T.): 0440

Depth: 10 m

Water Temperature: 7.2°C

Incubator Temperature: 8.0°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
2.81	208.4	2.80	128.7
2.92	83.0	2.88	63.3
2.59	38.8	2.72	31.7
1.85	19.5	1.91	19.2
1.00	9.5	1.14	9.0
0.52	5.4	0.64	4.8
0.23	3.1	0.28	3.6
0.09	2.0	0.12	1.7
0.04	1.3	0.04	1.3
0.00	1.1	0.02	1.3

Fitted Values		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.10	0.08	0.13
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	0.05	-0.05	0.15
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	2.86	2.73	3.00

STATION No. H-7

Lat.: 42°45'N
Date: 01/05/77

Long.: 63°25'W
Time(A.D.T.): 0440

Depth: 30 m

Water Temperature: 7.2°C

Incubator Temperature: 8.0°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
0.85	155.2	0.59	127.7
1.08	75.1	1.09	37.4
1.20	36.6	1.12	20.4
1.16	17.3	1.16	10.9
0.88	9.5	0.80	5.8
0.63	5.3	0.60	3.1
0.38	2.9	0.37	1.9
0.22	1.9	0.19	1.1
0.11	1.5	0.07	0.8
0.04	1.0	0.03	0.6

Fitted Values		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.16	0.10	0.23
P^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.06	-0.17	0.05
P^B_m(mg C(mg Chl a)$^{-1}$hr^{-1})	1.25	1.15	1.34

STATION No. H-9

Lat.: 43°00'N
Date: 01/05/77

Long.: 63°25'W
Time(A.D.T.): 0930

Depth: 10 m

Water Temperature: 7.3°C

Incubator Temperature: 7.0°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
5.49	192.6	5.63	159.0
4.59	83.7	4.47	72.4
3.75	35.5	4.24	33.4
2.04	19.1	3.16	17.2
1.17	9.0	1.88	9.7
0.59	4.6	1.50	5.0
0.37	2.9	0.72	3.1
		0.58	1.8
		0.40	1.2
		0.42	0.9

Fitted Values		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.05	-0.04	0.14
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	0.39	0.16	0.63
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	5.96	4.18	8.76

STATION No. H-9

Lat.: 43°00'N
Date: 01/05/77

Long.: 63°25'W
Time(A.D.T.): 0930

Depth: 30 m

Water Temperature: 6.5°C

Incubator Temperature: 7.0°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
2.01	150.9	2.12	118.6
2.51	77.9	2.12	32.5
2.30	34.9	2.57	16.4
1.87	16.6	2.01	9.5
1.19	7.2	1.18	6.0
0.71	3.8	0.60	3.4
0.42	2.5	0.29	2.1
0.21	1.8	0.15	1.3
0.08	1.3	0.06	1.0
0.04	0.9	0.02	0.7

Fitted Values		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.23	0.21	0.24
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.17	-0.20	-0.14
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	2.65	2.45	2.86

STATION No. H-10

Lat.: 42°45'N
Date: 02/05/77

Long.: 63°25'W
Time(A.D.T.): 0715

Depth: 10 m

Water Temperature: 9.5°C

Incubator Temperature: 9.2°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
3.27	202.9	3.27	110.9
3.01	91.3	3.18	52.1
2.29	39.6	2.59	24.2
1.73	20.1	1.81	14.2
0.80	10.7	1.04	7.6
0.45	5.4	0.60	3.7
0.17	3.1	0.24	2.3
0.05	1.8	0.09	1.3
0.02	1.2	0.03	0.9
0.00	0.9	0.01	0.7

Fitted Values

		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.12	0.07	0.16
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.08	-0.20	0.03
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	3.24	3.02	3.48

STATION No. H-10

Lat.: 42°45'N
Date: 02/05/77

Long.: 63°25'W
Time(A.D.T.): 0715

Depth: 30 m

Water Temperature: 13.2°C

Incubator Temperature: 9.2°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
1.35	125.5	0.99	121.4
1.41	66.6	1.33	46.4
1.49	31.9	1.59	18.5
1.40	14.6	1.38	11.4
1.03	7.9	1.00	6.1
0.60	4.4	0.56	3.6
0.36	2.6	0.34	2.3
0.21	2.0	0.14	1.5
0.10	1.2	0.07	1.0
0.03	0.9	0.02	0.8

Fitted Values		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.17	0.16	0.19
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.11	-0.15	-0.07
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	1.68	1.60	1.76

STATION No. H-13

Lat.: 42°30'N
Date: 02/05/77

Long.: 63°25'W
Time(A.D.T.): 1210

Depth: 10 m

Water Temperature: 12.8°C

Incubator Temperature: 10.5°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
2.02	196.2	1.90	160.8
1.99	87.4	2.16	74.5
1.85	37.3	1.92	31.7
1.24	20.1	1.51	15.3
0.68	10.1	0.87	8.7
0.36	5.0	0.48	4.7
0.15	2.8	0.23	2.8
0.04	1.9	0.07	1.5
0.01	1.2	0.03	1.1
0.00	0.9	0.01	0.9

Fitted Values		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.09	0.08	0.11
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.07	-0.14	0.00
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	2.15	2.02	2.28

STATION No. H-13

Lat.: 42°30'N
Date: 02/05/77

Long.: 63°25'W
Time(A.D.T.): 1210

Depth: 30 m

Water Temperature: 12.8°C

Incubator Temperature: 10.5°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
1.77	145.1
1.73	75.7
1.70	34.5
1.38	19.2
0.81	8.7
0.45	4.9
0.27	2.8
0.14	1.8
0.06	1.2
0.02	0.9

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
1.69	134.9
1.68	48.5
1.69	19.1
1.33	9.7
0.76	6.1
0.45	3.5
0.26	2.1
0.12	1.3
0.05	1.0
0.02	0.8

Fitted Values		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.13	0.11	0.14
P^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.07	-0.15	0.00
P^B_m(mg C(mg Chl a)$^{-1}$hr^{-1})	1.81	1.72	1.90

STATION No. H-14

Lat.: 42°43'N
Date: 03/05/77

Long.: 63°25'W
Time(A.D.T.): 0550

Depth: 10 m

Water Temperature: 9.8°C

Incubator Temperature: 10.5°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
2.80	204.9	2.89	168.4
2.22	89.7	2.86	76.4
2.56	40.4	2.68	38.6
1.68	19.7	1.96	18.6
0.89	9.7	1.08	9.4
0.49	5.0	0.57	5.3
0.25	3.2	0.30	3.4
0.03	1.1	0.12	1.8
0.01	0.9	0.06	1.1
		0.02	0.6

Fitted Values		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.11	0.10	0.12
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.07	-0.12	-0.02
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	2.82	2.67	2.96

STATION No. H-14

Lat.: 42°45'N
Date: 03/05/77

Long.: 63°25'W
Time(A.D.T.): 0550

Depth: 30 m

Water Temperature: 11.4°C

Incubator Temperature: 10.5°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
1.75	153.4
1.90	75.4
1.90	36.2
1.73	17.5
1.17	8.9
0.65	4.5
0.37	2.6
0.18	1.7
0.09	1.1
0.04	0.8

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
1.43	143.4
1.83	49.3
1.80	21.2
1.68	11.8
1.03	6.4
0.54	3.8
0.32	2.3
0.17	1.4
0.07	1.0
0.02	0.7

Fitted Values		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.15	0.14	0.16
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.05	-0.10	-0.01
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	1.99	1.89	2.09

STATION No. H-17

Lat.: 42°30'N
Date: 03/05/77

Long.: 63°25'W
Time(A.D.T.): 1050

Depth: 10 m

Water Temperature: 11.0°C

Incubator Temperature: 12.0°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
2.19	222.1	2.04	172.6
2.27	91.2	2.10	85.6
2.13	37.7	2.07	38.6
1.62	18.7	1.53	18.0
0.89	11.4	0.94	10.0
0.51	5.4	0.53	5.6
0.20	3.8	0.25	3.1
0.09	2.1	0.09	1.7
0.02	1.5	0.03	1.2
0.01	1.1	0.01	0.9

Fitted Values		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.09	0.09	0.10
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.07	-0.11	-0.03
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	2.33	2.22	2.46

STATION No. H-17

Lat.: 42°30'N
Date: 03/05/77

Long.: 63°25'W
Time(A.D.T.): 1050

Depth: 30 m

Water Temperature: 11.2°C

Incubator Temperature: 12.0°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
2.36	132.7	2.10	142.2
2.16	64.1	2.08	53.1
2.48	32.2	2.11	19.6
1.73	15.4	1.72	12.1
0.99	8.2	1.00	6.6
0.52	3.6	0.52	3.1
0.32	2.5	0.29	2.2
0.14	1.4	0.16	1.4
0.06	1.2	0.05	1.1
0.02	0.9	0.00	0.8

Fitted Values		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.15	0.13	0.16
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.06	-0.12	0.00
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	2.34	2.22	2.47

STATION No. H-18

Lat.: 42°40'N
Date: 04/05/77

Long.: 63°25'W
Time(A.D.T.): 1800

Depth: 10 m

Water Temperature: 9.5°C

Incubator Temperature: 11.0°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
1.71	180.2	1.62	154.3
1.49	89.8	1.61	75.4
1.41	40.6	1.49	36.5
0.96	21.7	0.97	19.0
0.51	8.6	0.53	11.1
0.21	3.9	0.30	5.8
0.09	2.3	0.10	3.5
0.03	1.6	0.03	2.0
0.01	1.1	0.00	1.3
0.00	0.7	0.00	0.9

Fitted Values

		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.06	0.05	0.07
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.06	-0.09	-0.04
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	1.68	1.63	1.74

STATION No. H-18A

Lat.: 42°40'N
Date: 04/05/77

Long.: 63°25'W
Time(A.D.T.): 2015

Depth: 10 m

Water Temperature:

Incubator Temperature:

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
1.15	137.2	1.05	122.8
1.23	64.0	1.15	46.7
1.17	33.3	1.05	20.1
0.79	16.6	0.80	10.3
0.45	8.3	0.41	5.0
0.22	4.7	0.21	4.0
0.09	3.1	0.08	1.5
0.03	2.1	0.03	1.0
0.01	1.3	0.01	0.7
		0.00	0.5

Fitted Values

		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.06	0.05	0.08
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.05	-0.10	0.00
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	1.29	1.18	1.40

STATION No. H-19

Lat.: 42°40'N
Date: 04/05/77

Long.: 63°25'W
Time(A.D.T.): 2300

Depth: 10 m

Water Temperature: 8°C

Incubator Temperature: 11°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
1.02	196.3	0.87	153.7
0.92	88.5	0.99	71.7
0.91	34.2	0.96	35.6
0.79	19.1	0.77	17.7
0.44	10.8	0.51	9.4
0.26	5.2	0.34	4.7
0.12	3.2	0.13	2.7
0.04	2.0	0.04	1.5
0.01	1.4	0.01	1.0
		0.01	0.5

Fitted Values

		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.05	0.04	0.06
P^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.02	-0.07	0.03
P^B_m(mg C(mg Chl a)$^{-1}$hr^{-1})	1.02	0.97	1.07

STATION No. H-19A

Lat.: 42°40'N
Date: 04/05/77

Long.: 63°25'W
Time(A.D.T.): 2300

Depth: 10 m

Water Temperature: 8°C

Incubator Temperature: 11°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
0.82	129.0	0.82	117.1
0.89	56.8	0.78	45.0
0.91	31.4	0.86	21.5
0.76	15.4	0.63	12.1
0.45	7.8	0.40	6.2
0.27	4.7	0.22	3.8
0.15	2.7	0.09	2.2
0.06	1.8	0.05	1.4
0.02	1.3	0.02	1.0
0.00	1.0	0.01	0.7

Fitted Values

		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.07	0.06	0.07
$\bar{R}^B$(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.05	-0.07	-0.04
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	0.93	0.89	0.96

STATION No. H-20

Lat.: 42°40'N
Date: 05/05/77

Long.: 63°25'W
Time(A.D.T.): 0200

Depth: 10 m

Water Temperature: 9.8°C

Incubator Temperature: 10.5°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
1.08	202.6	1.03	138.1
1.18	77.4	1.04	70.8
1.19	36.9	1.02	31.5
0.92	17.7	0.89	16.2
0.66	10.0	0.64	9.1
0.38	5.4	0.40	4.6
0.18	3.4	0.20	3.2
0.08	2.2	0.10	2.0
0.04	1.6	0.05	1.5
0.01	1.3	0.02	1.2

Fitted Values

		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.08	0.07	0.09
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.06	0.10	-0.03
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	1.17	1.12	1.22

STATION No. H-20A

Lat.: 42°40'N
Date: 05/05/77

Long.: 63°25'W
Time(A.D.T.): 0400

Depth: 10 m

Water Temperature: 9.8°C

Incubator Temperature: 10.5°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
1.90	127.8	1.55	122.1
1.84	54.5	1.81	38.0
1.75	25.0	1.39	18.8
1.10	13.1	0.88	9.4
0.57	6.3	0.47	4.8
0.29	4.3	0.20	2.2
0.13	2.0	0.12	1.1
0.05	1.4	0.04	0.9
0.01	1.1	0.04	0.6
0.00	0.6	0.04	0.5

Fitted Values

		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.09	0.08	0.10
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.03	-0.06	0.00
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	1.96	1.88	2.04

STATION No. H-21

Long.: 63°25'W
Time(A.D.T.): 0620

Depth: 10 m

Incubator Temperature: 10.5°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
2.75	134.9
3.19	64.0
2.80	30.9
1.76	14.5
1.00	7.7
0.57	4.2
0.26	2.5
0.10	1.4
0.04	1.0
0.02	0.9

		Confidence Limits lower	upper
	0.14	0.13	0.15
	-0.10	-0.13	-0.07
	3.16	3.05	3.28

STATION No. H-21A

Lat.: 42°40'N
Date: 05/05/77

Long.: 63°25'W
Time(A.D.T.): 0800

Depth: 10 m

Water Temperature: 9.5°C

Incubator Temperature: 10.5°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
2.77	125.8	2.42	59.9
2.61	52.7	2.43	27.5
2.25	25.5	1.88	11.7
1.29	13.0	0.97	7.1
0.61	6.4	0.40	3.2
0.30	3.6	0.16	1.5
0.13	2.0	0.06	1.1
0.04	1.3	0.02	0.7
0.02	0.9	0.01	0.5
0.01	0.6	0.00	0.3

Fitted Values

		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.13	0.11	0.14
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.08	-0.13	-0.03
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	2.75	2.56	2.94

STATION No. H-22

Lat.: 42°40'N
Date: 05/05/77

Long.: 63°25'W
Time(A.D.T.): 1000

Depth: 10 m

Water Temperature:

Incubator Temperature:

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
2.29	187.7	2.41	143.4
2.37	76.8	2.32	67.8
2.10	34.6	2.19	32.1
1.32	19.1	1.50	15.7
0.72	8.5	0.85	8.5
0.34	4.7	0.45	4.7
0.16	3.0	0.19	3.1
0.04	1.8	0.07	1.6
0.02	1.3	0.03	1.1
0.00	1.1	0.01	0.7

Fitted Values

		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.10	0.10	0.11
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.11	-0.15	-0.07
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	2.49	2.40	2.58

STATION No. H-22A

Lat.: 42°40'N
Date: 05/05/77

Long.: 63°25'W
Time(A.D.T.): 1200

Depth: 10 m

Water Temperature: 9.8°C

Incubator Temperature: 10.5°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$·hr^{-1}	Light Intensity Watts m^{-2}
2.39	127.8	2.34	113.4
2.31	59.2	2.31	38.7
2.07	27.5	1.84	18.7
1.30	12.3	1.14	9.2
0.61	6.7	0.55	5.3
0.29	3.5	0.25	2.9
0.12	2.2	0.10	1.7
0.03	1.6	0.03	1.2
0.01	1.1	0.01	0.8
0.00	0.7	0.01	0.5

Fitted Values		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.12	0.11	0.13
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.11	-0.15	-0.07
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	2.49	2.42	2.57

STATION No. H-23

Lat.: 42°40'N
Date: 05/05/77

Long.: 63°25'W
Time(A.D.T.): 1410

Depth: 10 m

Water Temperature: 9.8°C

Incubator Temperature: 10.5°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
2.02	186.6	1.88	134.7
2.05	75.6	2.08	61.6
1.91	33.0	1.65	29.3
1.22	16.2	1.24	14.4
0.65	7.4	0.66	7.9
0.34	3.8	0.35	4.6
0.14	2.1	0.15	3.1
0.04	1.3	0.03	1.7
0.01	0.8	0.03	1.3
0.00	0.4	0.01	1.0

Fitted Values

		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.09	0.08	0.09
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.06	-0.09	-0.02
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	2.14	2.06	2.22

STATION No. H-23A

Lat.: 42°40'N
Date: 05/05/77

Long.: 63°25'W
Time(A.D.T.): 1615

Depth: 10 m

Water Temperature: 10.5°C

Incubator Temperature: 10.8°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
1.91	119.1	1.95	134.2
2.09	51.6	2.01	57.0
1.85	23.9	1.55	24.8
1.17	12.5	1.09	10.4
0.59	6.2	0.53	4.7
0.27	4.0	0.25	2.2
0.11	2.2	0.13	1.3
0.04	1.5	0.03	0.8
0.02	1.0	0.01	0.3
0.01	0.7	0.01	0.1

Fitted Values		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.10	0.09	0.11
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.05	-0.09	-0.01
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	2.12	2.01	2.24

STATION No. H-24

Lat.: 42°40'N
Date: 05/05/77

Long.: 63°25'W
Time(A.D.T.): 1800

Depth: 10 m

Water Temperature: 9.0°C

Incubator Temperature: 10.0°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
1.91	199.7	2.00	137.0
1.98	67.3	1.98	65.0
1.65	30.4	1.75	31.0
1.12	15.6	1.23	17.3
0.54	7.4	0.64	7.7
0.27	3.7	0.28	3.8
0.09	2.3	0.11	2.5
0.03	1.5	0.03	1.5
0.01	1.2	0.00	0.9
0.01	0.9	0.01	0.6

Fitted Values		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.08	0.07	0.08
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.05	-0.08	-0.03
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	2.09	2.02	2.15

STATION No. H-24A

Lat.: 42°40'N
Date: 05/05/77

Long.: 63°25'W
Time(A.D.T.): 2000

Depth: 10 m

Water Temperature: 9.0°C

Incubator Temperature: 10.5°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
1.01	153.4	1.03	174.1
1.09	83.3	1.04	64.6
1.08	37.5	1.01	27.5
0.89	16.5	0.83	14.4
0.50	8.3	0.54	7.2
0.26	4.7	0.29	3.8
0.12	3.1	0.14	2.3
0.04	2.0	0.04	1.6
0.01	1.3	0.01	1.2
0.00	0.9	0.00	0.7

Fitted Values		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.08	0.07	0.09
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.07	-0.11	-0.04
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	1.15	1.11	1.19

STATION No. H-25

Lat.: 42°35'N
Date: 07/05/77

Long.: 63°25'W
Time(A.D.T.): 0725

Depth: 10 m

Water Temperature: 12.5°C

Incubator Temperature: 13.5°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
3.28	183.4	3.34	133.1
3.05	83.9	3.71	64.6
3.04	32.9	3.67	31.7
2.08	17.3	2.71	15.9
1.24	8.4	1.48	8.3
0.71	4.7	0.87	4.8
0.34	2.7	0.42	2.6
0.14	1.6	0.18	1.4
0.08	1.1	0.07	1.0
0.06	0.8	0.03	0.8

Fitted Values

		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.18	0.16	0.19
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.10	-0.16	-0.03
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	3.54	3.32	3.76

STATION No. H-25

Lat.: 42°35'N
Date: 07/05/77

Long.: 63°25'W
Time(A.D.T.): 0725

Depth: 30 m

Water Temperature: 13.0°C

Incubator Temperature: 13.6°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
2.86	143.4	2.53	163.4
2.62	68.6	2.78	71.2
2.75	34.0	2.27	32.5
2.37	16.7	2.04	15.0
1.25	8.4	1.30	7.5
0.80	4.2	0.79	4.0
0.51	2.4	0.45	2.3
0.23	1.7	0.28	1.5
0.10	1.2	0.15	1.3
0.04	0.8	0.06	0.7

Fitted Values		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.17	0.15	0.19
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.02	-0.10	0.05
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	2.74	2.62	2.86

STATION No. H-27

Lat.: 42°45'N
Date: 07/05/77

Long.: 63°25'W
Time(A.D.T.): 0920

Depth: 10 m

Water Temperature: 9.0°C

Incubator Temperature: 10.2°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
2.50	183.4	2.54	133.1
2.28	83.9	2.23	64.6
2.24	32.9	2.27	31.7
1.56	17.3	1.60	15.9
0.88	8.4	0.93	8.3
0.45	4.7	0.43	4.8
0.18	2.7	0.19	2.6
0.05	1.6	0.07	1.4
0.01	1.1	0.02	1.0
0.01	0.8		

Fitted Values		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.12	0.12	0.13
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.12	-0.14	-0.10
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	2.53	2.60	2.47

STATION No. H-27

Lat.: 42°45'N
Date: 07/05/77

Long.: 63°25'W
Time(A.D.T.): 0920

Depth: 30 m

Water Temperature: 11.8°C

Incubator Temperature: 10.2°C

Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}	Specific Production mg C(mg Chl a)$^{-1}$hr^{-1}	Light Intensity Watts m^{-2}
1.70	143.4	1.40	163.4
1.98	68.6	1.82	71.2
1.81	34.0	1.74	32.5
1.65	16.7	1.80	15.0
1.08	8.1	1.18	7.5
0.57	4.2	0.62	4.0
0.34	2.4	0.27	2.3
0.19	1.7	0.20	1.5
0.11	1.2	0.09	1.3
0.05	0.8	0.05	0.7

Fitted Values

		Confidence Limits lower	upper
α(mg C(mg Chl a)$^{-1}$hr^{-1})(Watts m^{-1})$^{-1}$	0.15	0.14	0.17
R^B(mg C(mg Chl a)$^{-1}$hr^{-1})	-0.06	-0.11	-0.02
P_m^B(mg C(mg Chl a)$^{-1}$hr^{-1})	1.95	1.86	2.04

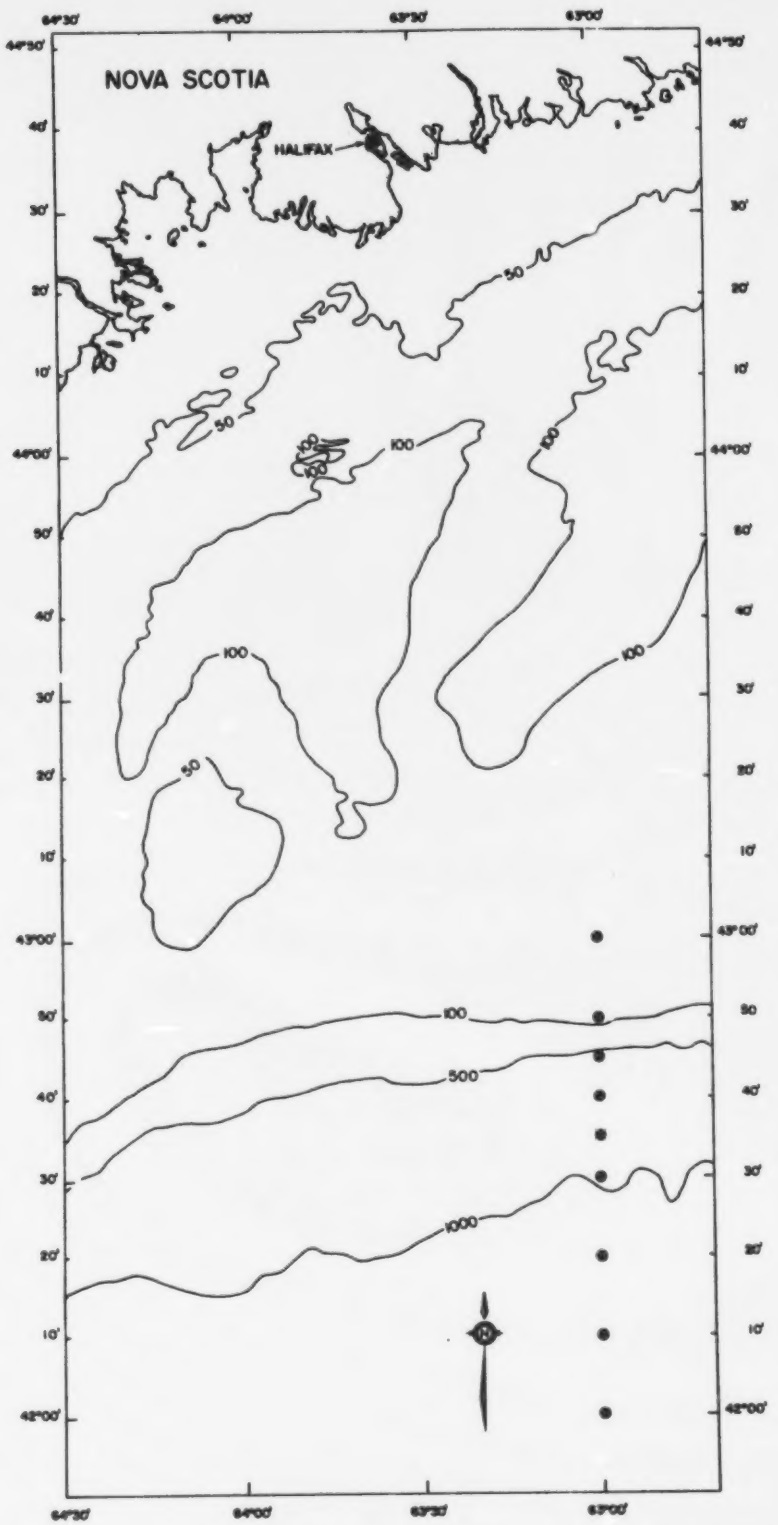

Fig. 1. Area of cruise and station locations. Depth contours are labelled in fathoms (1 fm - 1.83 m).

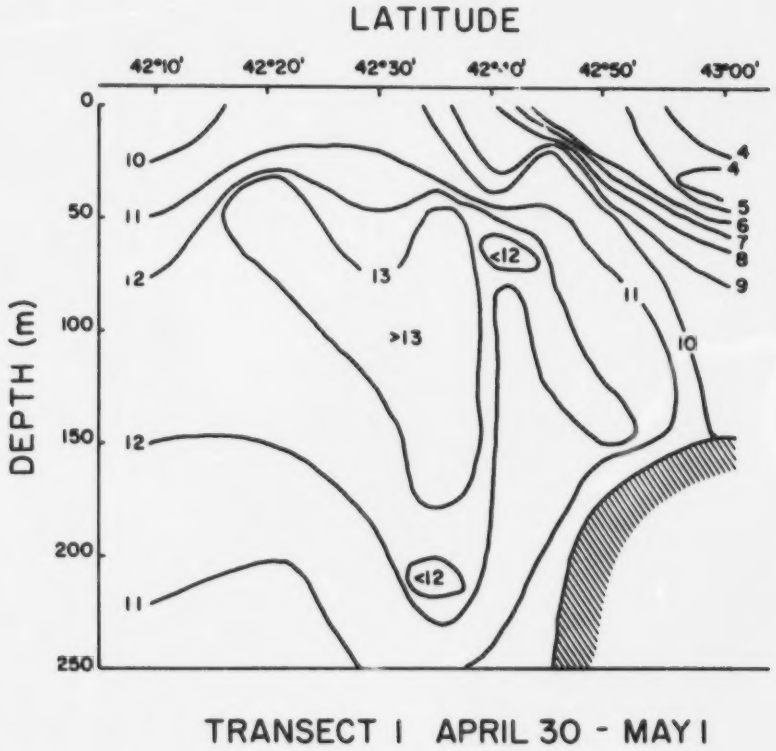

Fig. 2. Temperature distribution (T°C) along first transect April 30 to May 1.

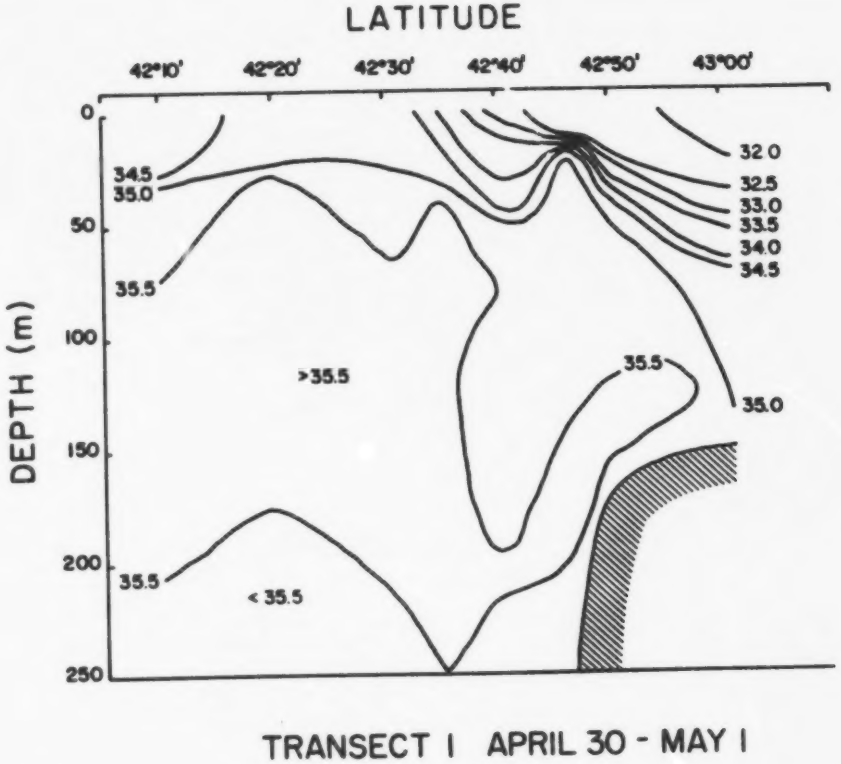

Fig. 3. Salinity distribution (°/₀₀) along first transect April 30 to May 1.

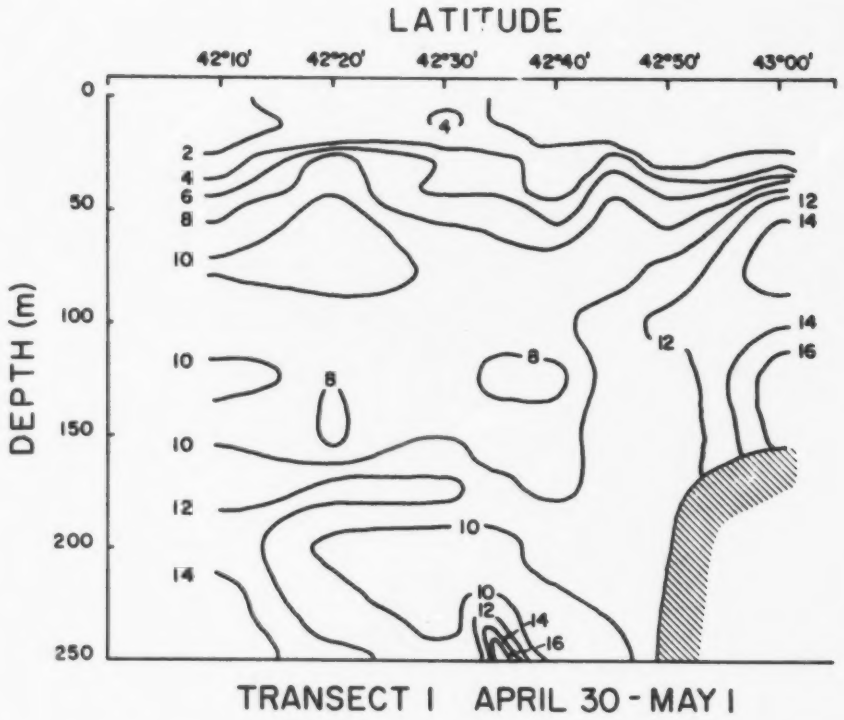

Fig. 4. Nitrate concentrations (mg-at m^{-3}) along first transect April 30 to May 1.

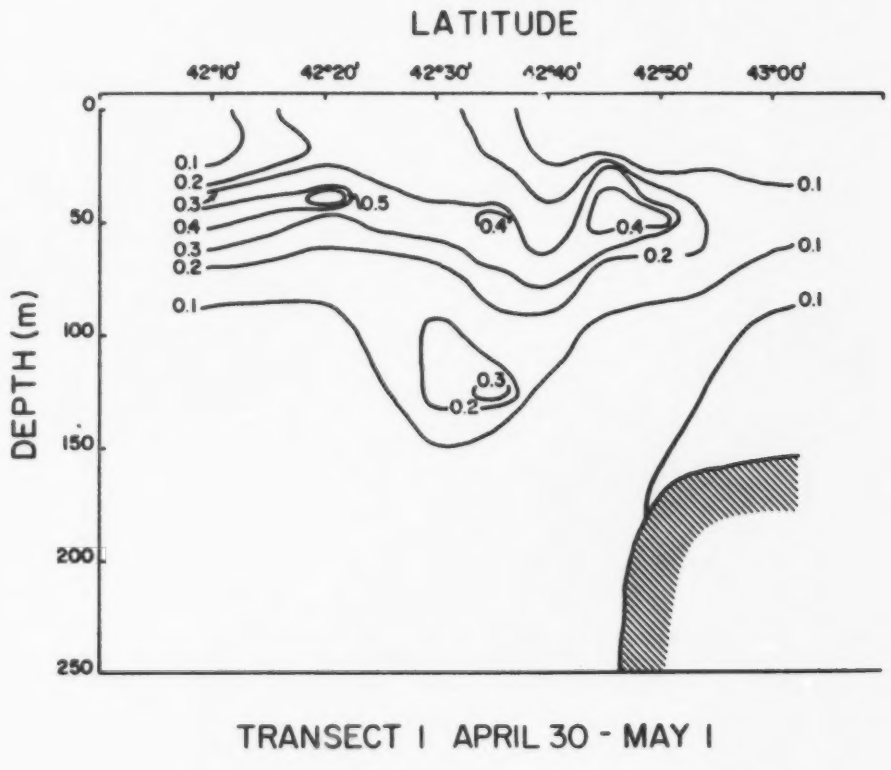

Fig. 5. Nitrite concentrations (mg-at m^{-3}) along first transect April 30 to May 1.

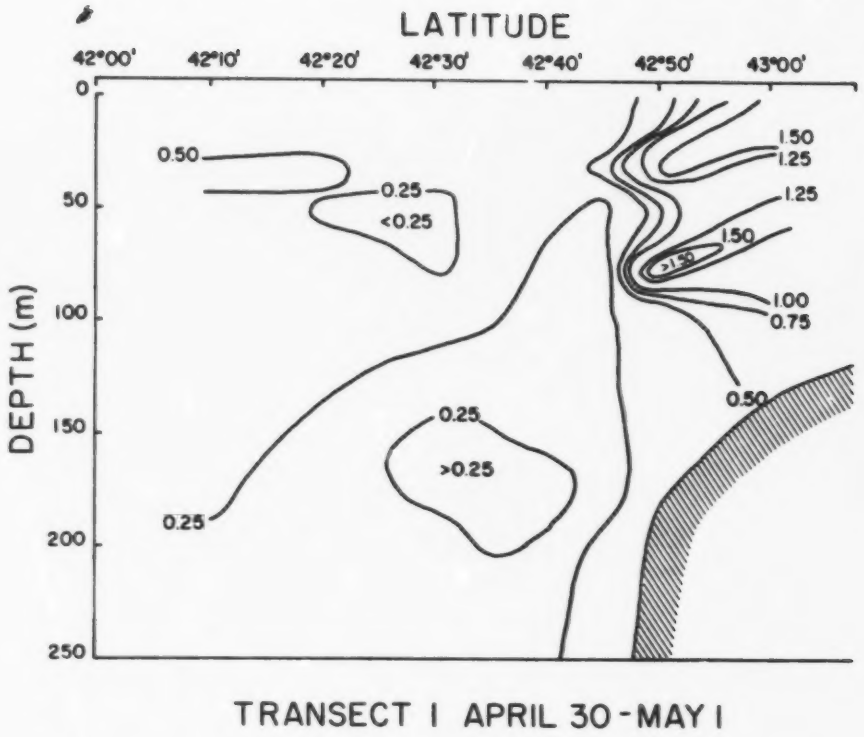

Fig. 6. Ammonia concentrations (mg-at m^{-3}) along first transect April 30 to May 1.

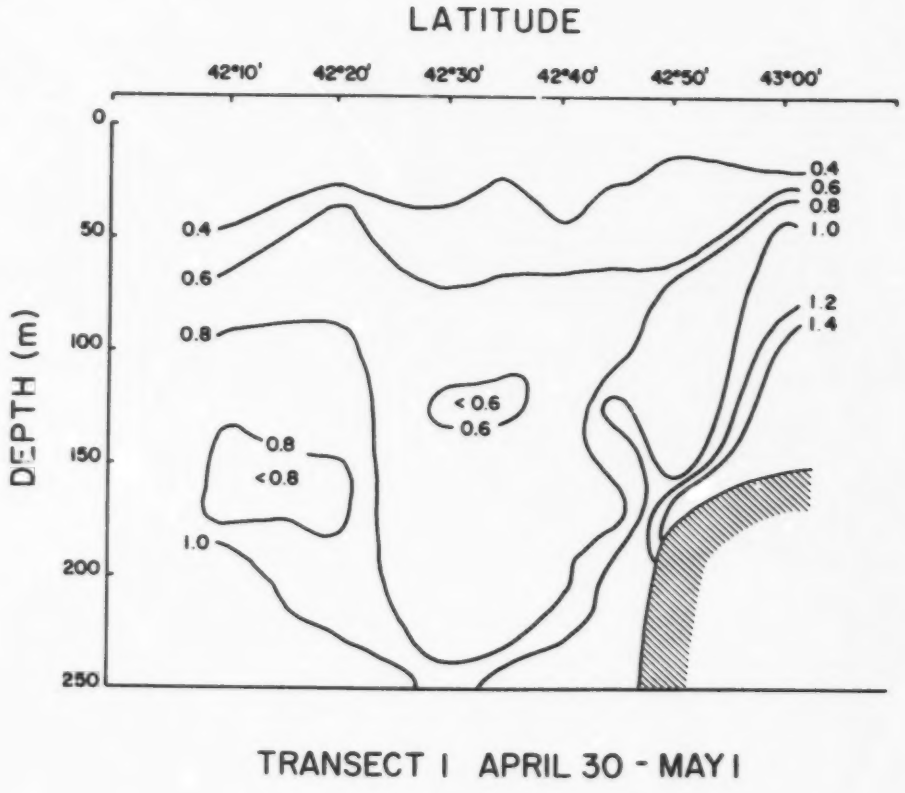

Fig. 7. Inorganic phosphate concentrations (mg at m^{-3}) along first transect April 30 to May 1.

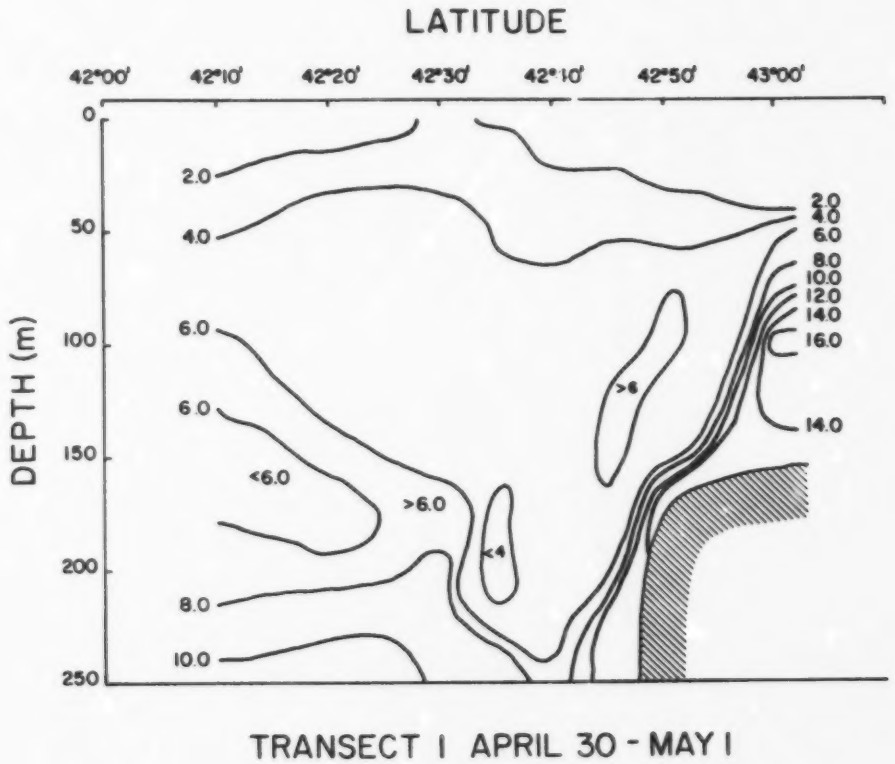

Fig. 8. Silicate concentrations (mg-at m^{-3}) along first transect April 30 to May 1.

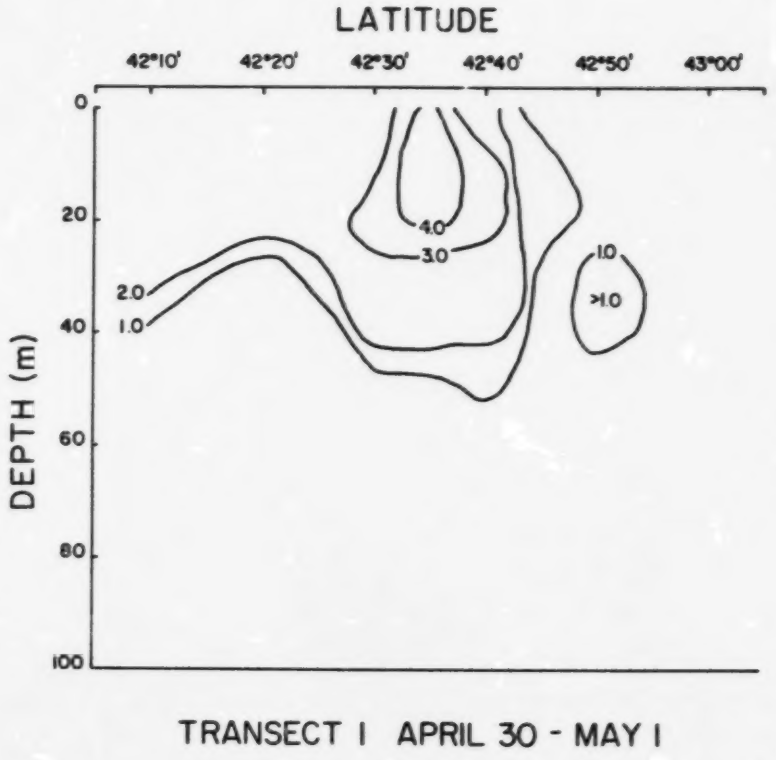

Fig. 9. Chlorophyll concentrations (mg m^{-3}) along first transect April 30 to May 1.

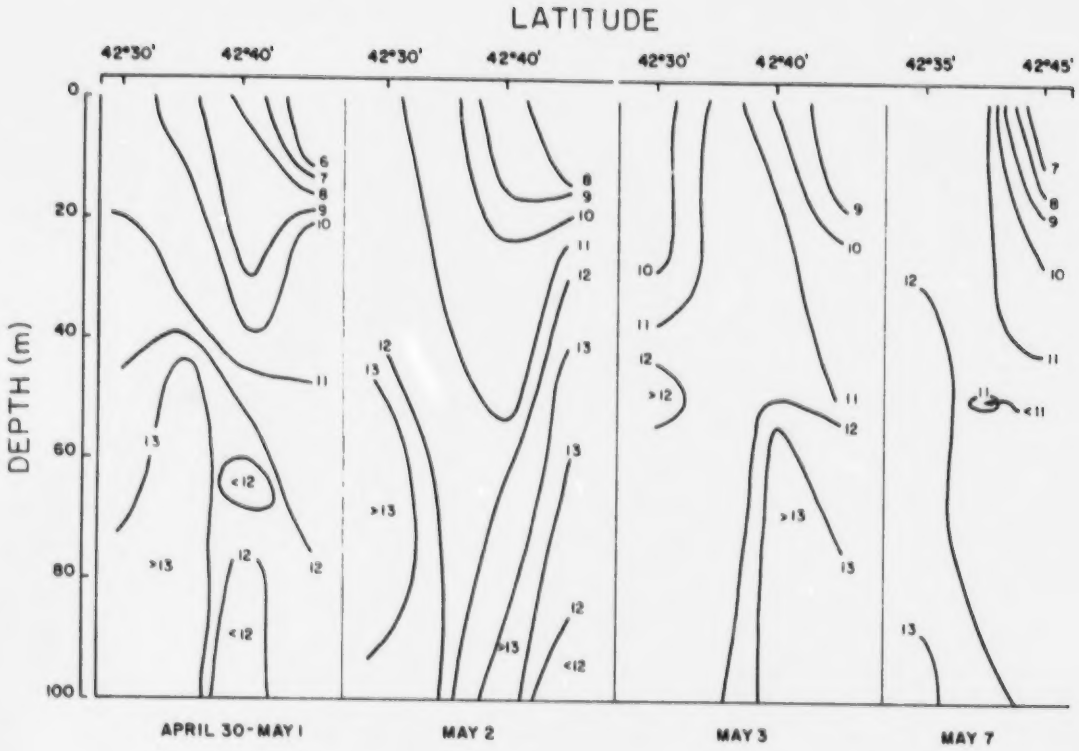

Fig. 10. Temperature distribution (T°C) along 63°25'W between 42°30'N and 42°45'N on April 30 to May 1, May 2, May 3 and May 7.

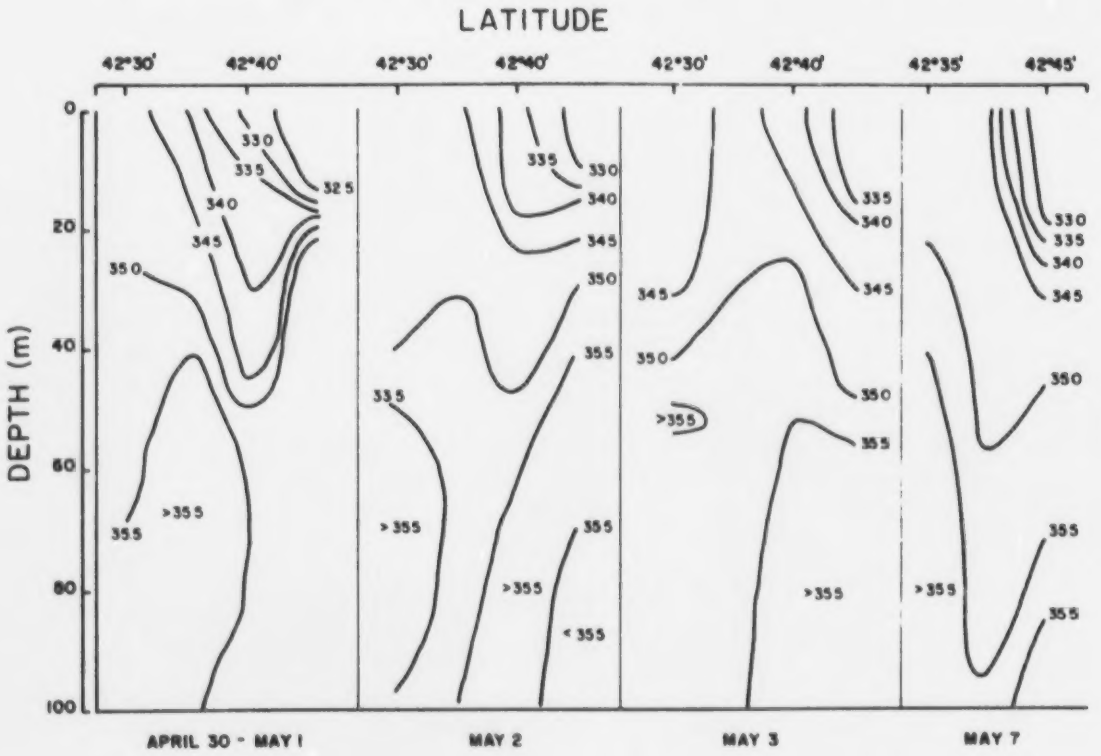

Fig. 11. Salinity distribution (°/₀₀) along 63°25'W between 42°30'N and 42°45'N on April 30 to May 1, May 2, May 3 and May 7.

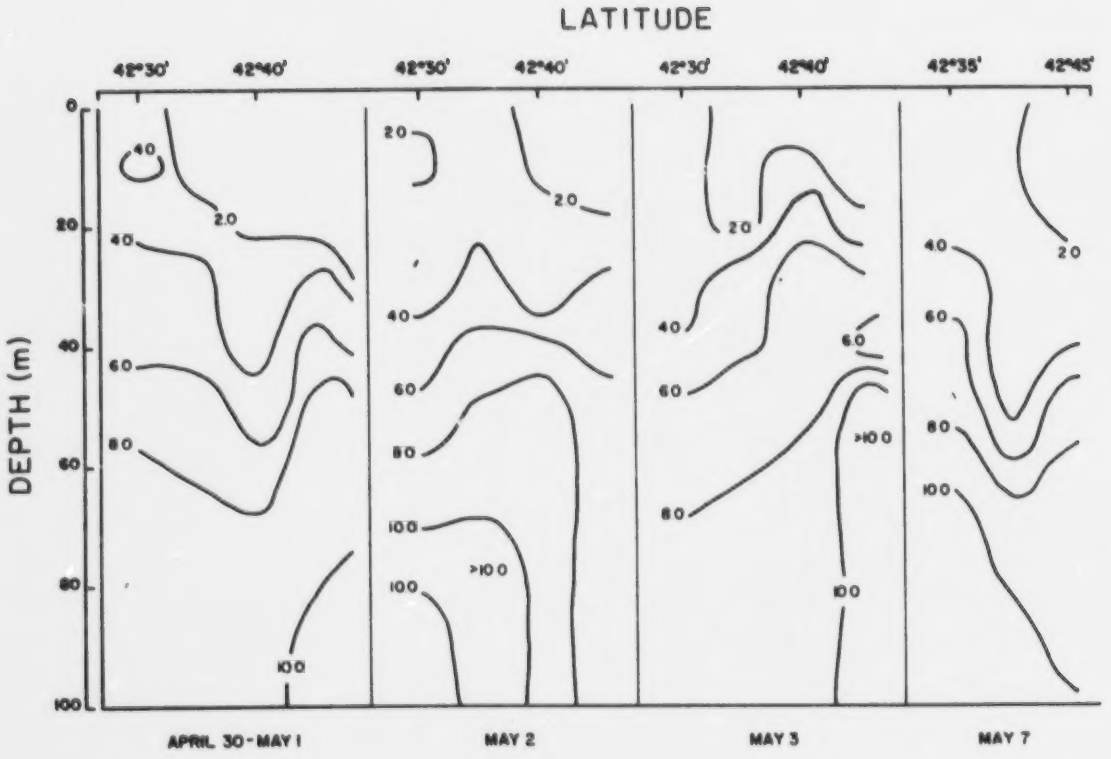

Fig. 12. Nitrate concentrations (mg-at m^{-3}) along 63°25'W between 42°30'W and 42°45'N on April 30 to May 1, May 2, May 3 and May 7.

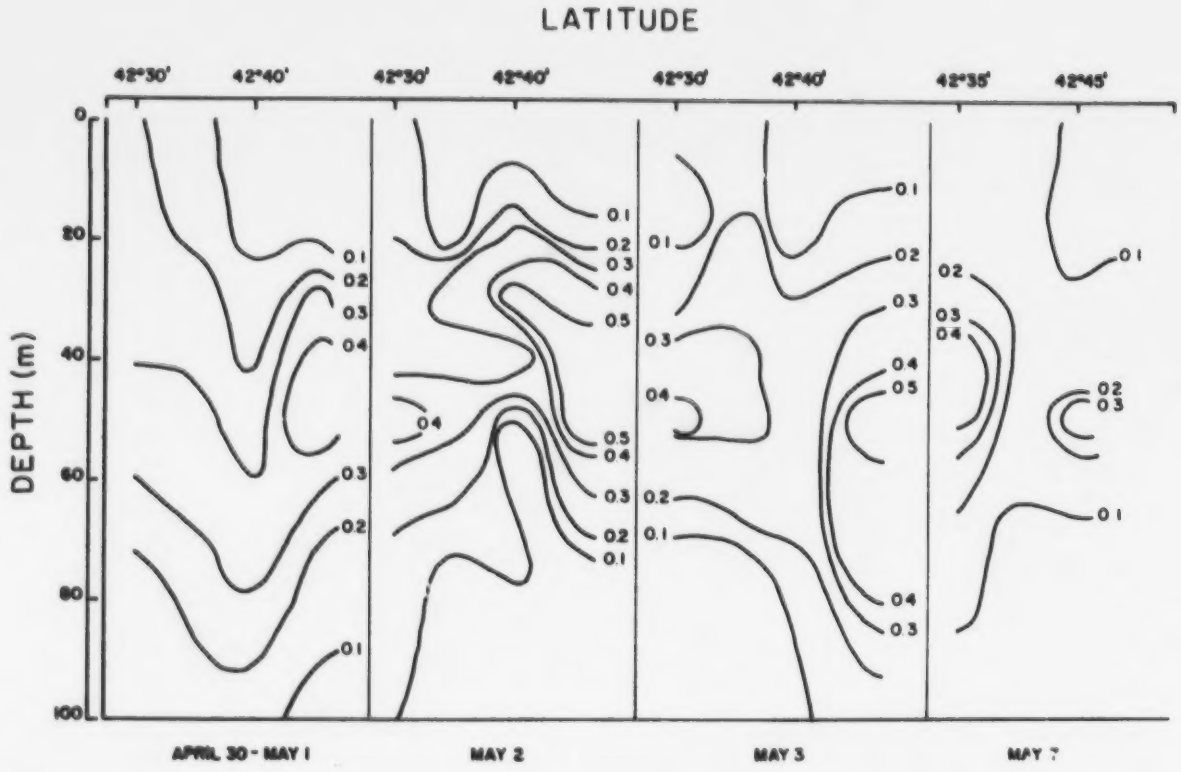

Fig. 13. Nitrite concentrations (mg-at m^{-3}) along 63°25'W between 42°30'N and 42°45'N on April 30 to May 1, May 2, May 3 and May 7.

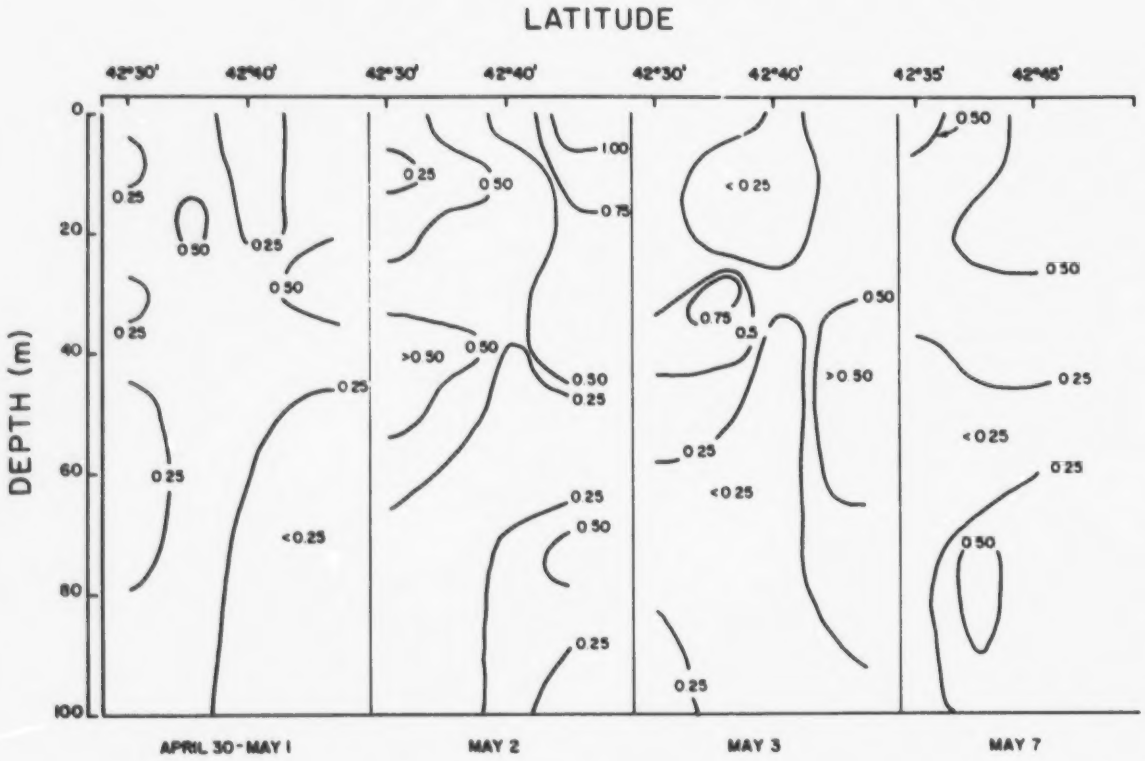

Fig. 14. Ammonia concentrations (mg-at m^{-3}) along 63°25'W between 42°30'N and 42°45'N on April 30 tO May 1, May 2, May 3 and May 7.

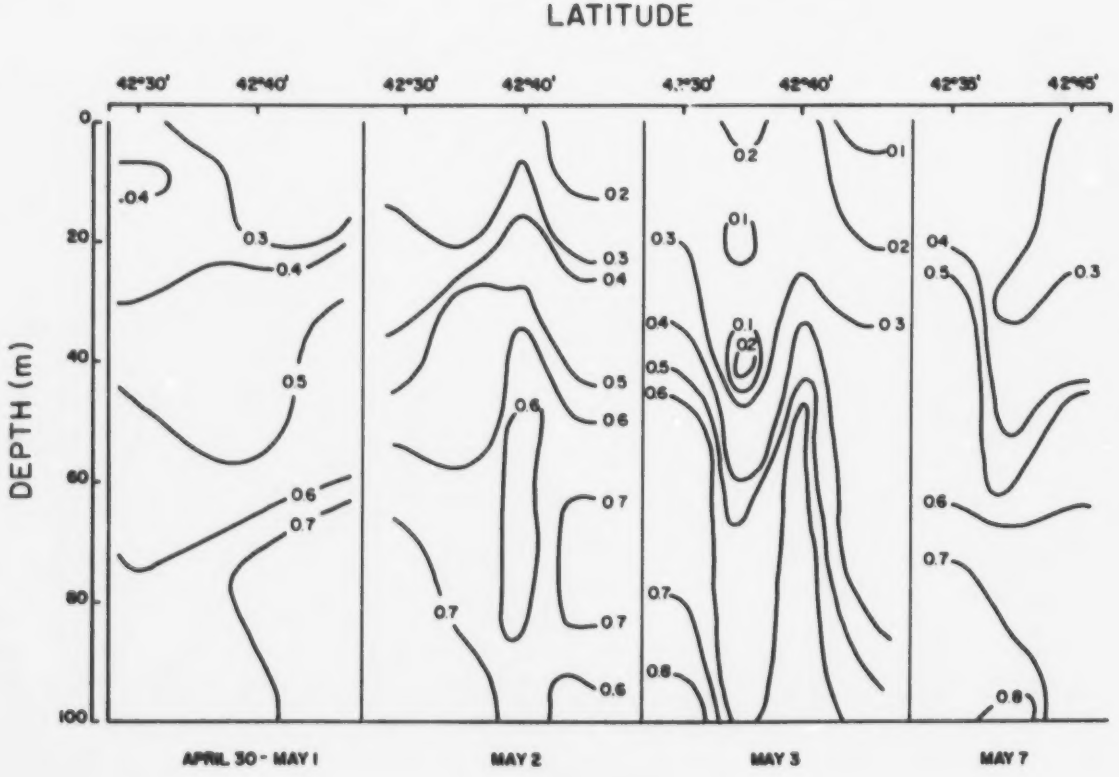

Fig. 15. Inorganic phosphate concentrations (mg-at m^{-3}) along 63°25'W between 42°30'N and 42°45'N on April 30 to May 1, May 2, May 3 and May 7.

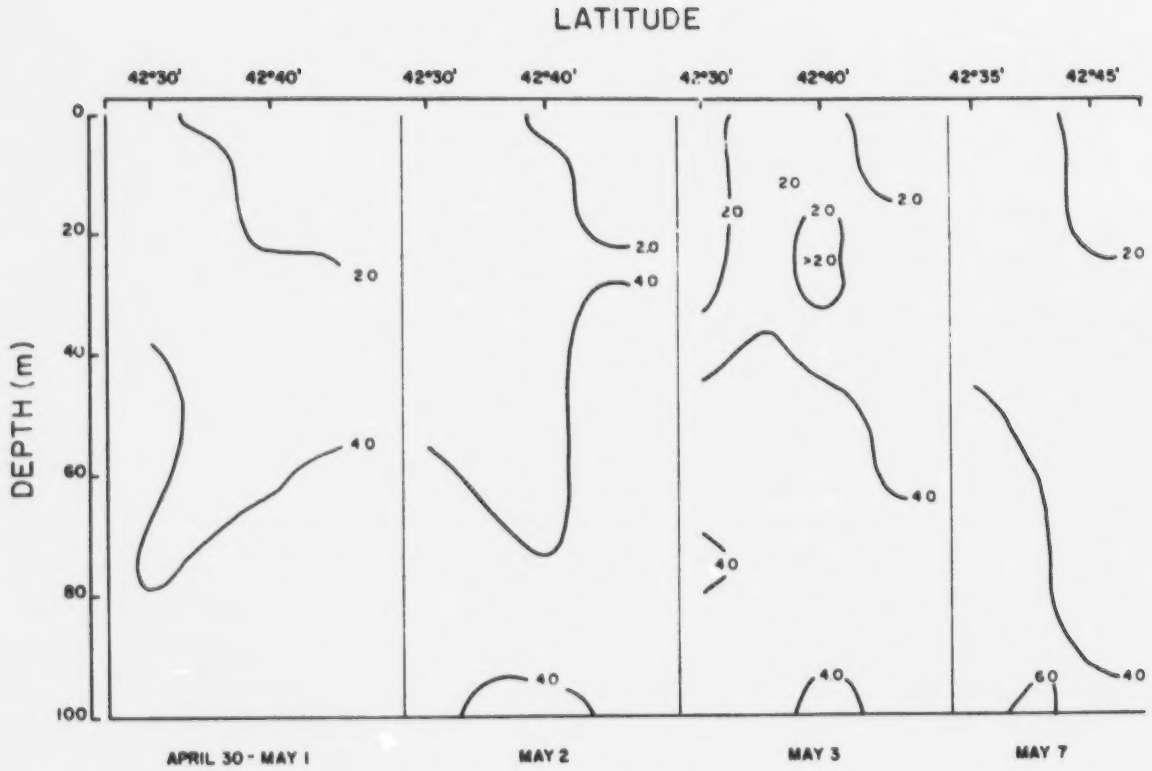

Fig. 16. Silicate concentrations (mg-at m^{-3}) along 63°25'W between 42°30'N and 42°45'N on April 30 to May 1, May 2, May 3 and May 7.

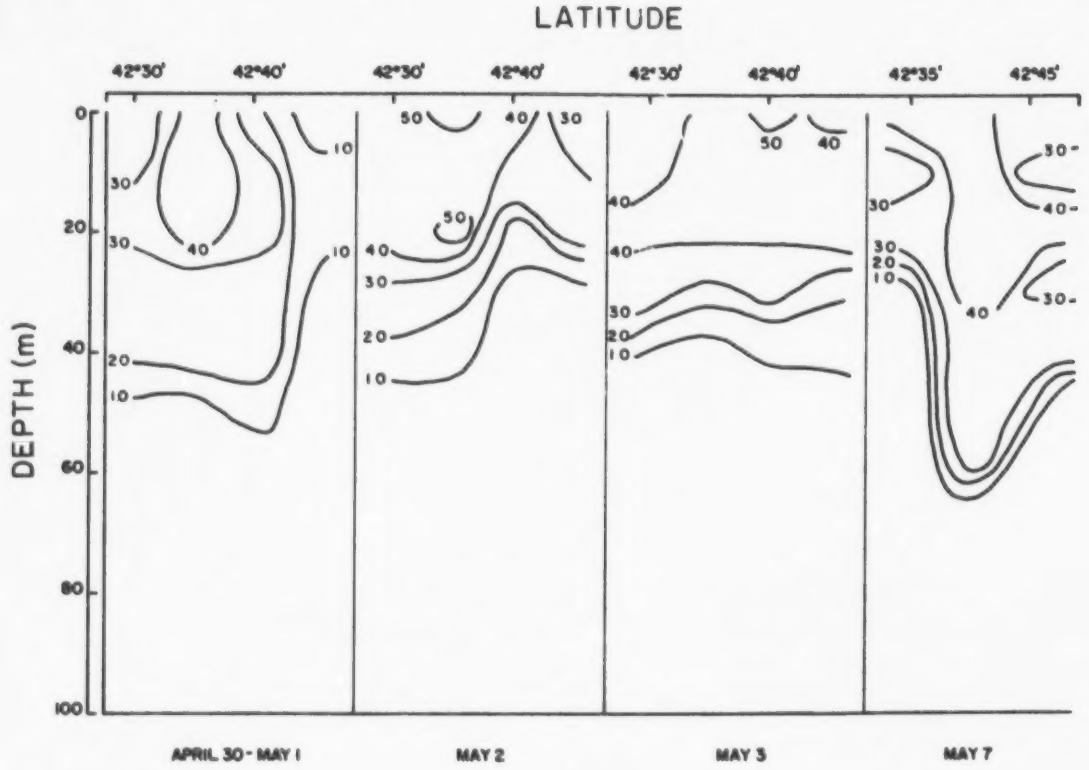

Fig. 17. Chlorophyll concentrations (mg m^{-3}) along 63°25'W between 42°30'N and 42°45'N on April 30 to May 1, May 2, May 3 and May 7.

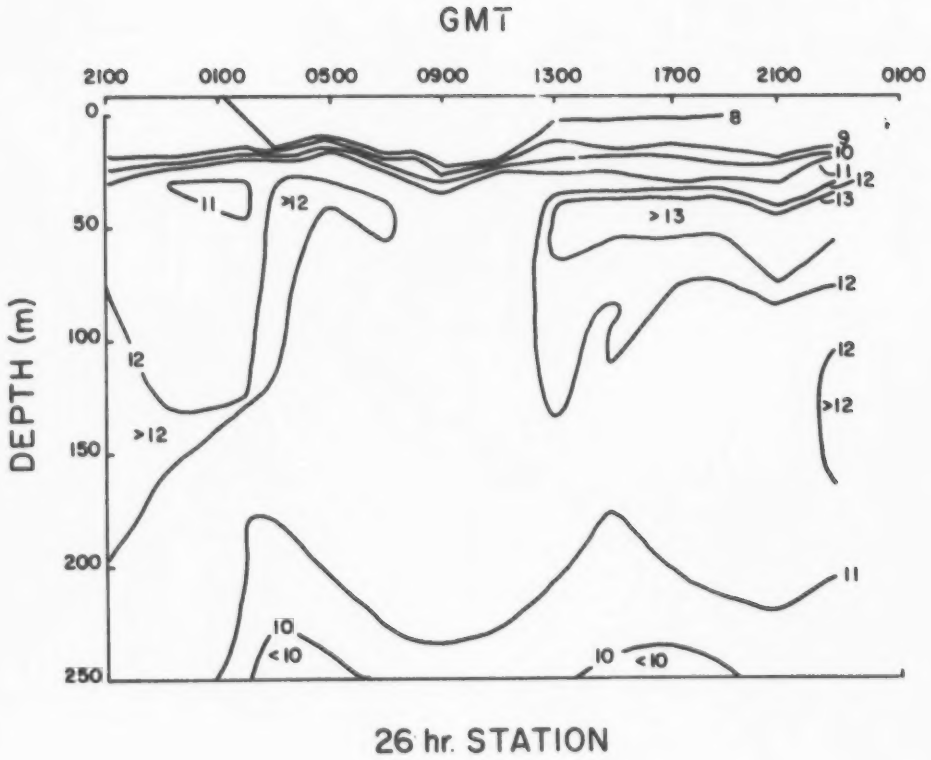

Fig. 18. Temperature distribution (T°C) at 63°25'W 42°40'N between 2100Z, May 4 and 2300 Z May 5.

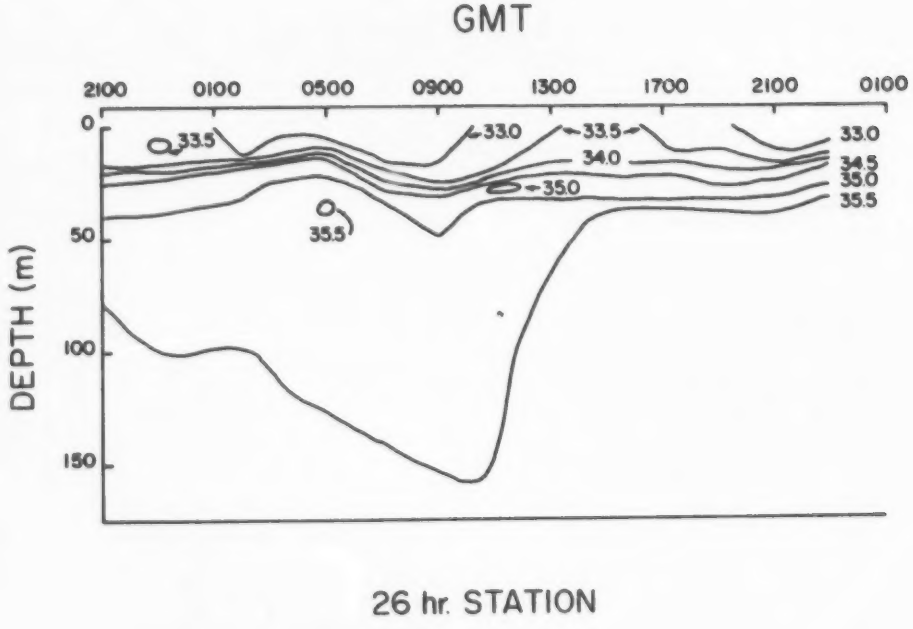

Fig. 19. Salinity distribution (°/₀₀) at 63°25'W 42°40'N between 2100Z May 4 and 2300Z May 5.

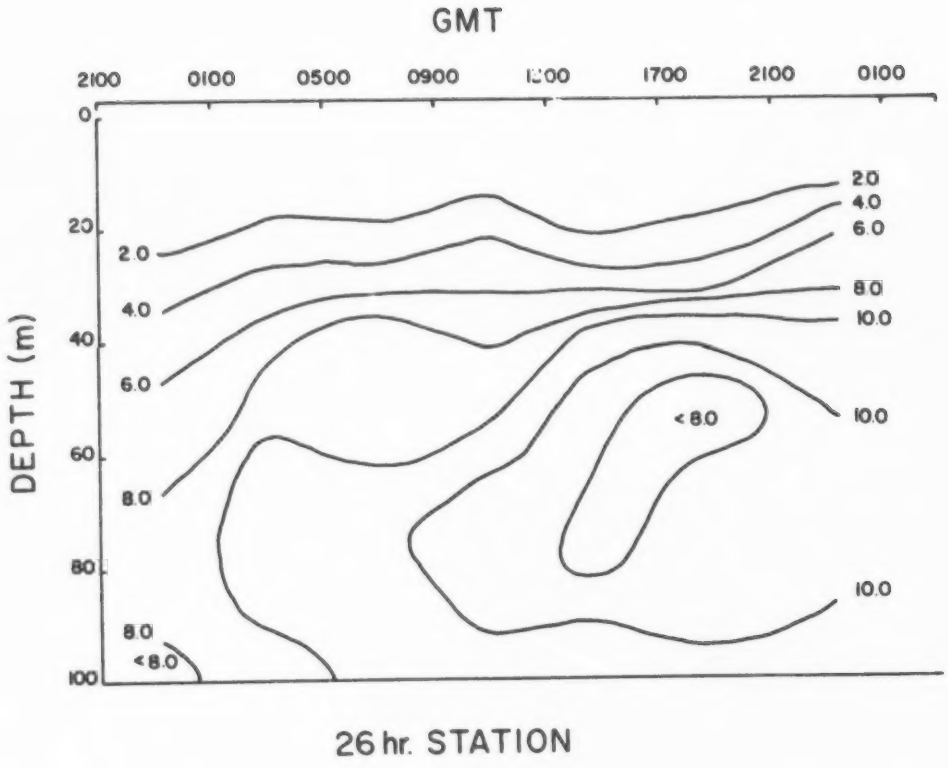

Fig. 20. Nitrate concentrations (mg-at m^{-3}) at 63°25'W 42°40'N between 2100Z May 4 and 2300Z May 5.

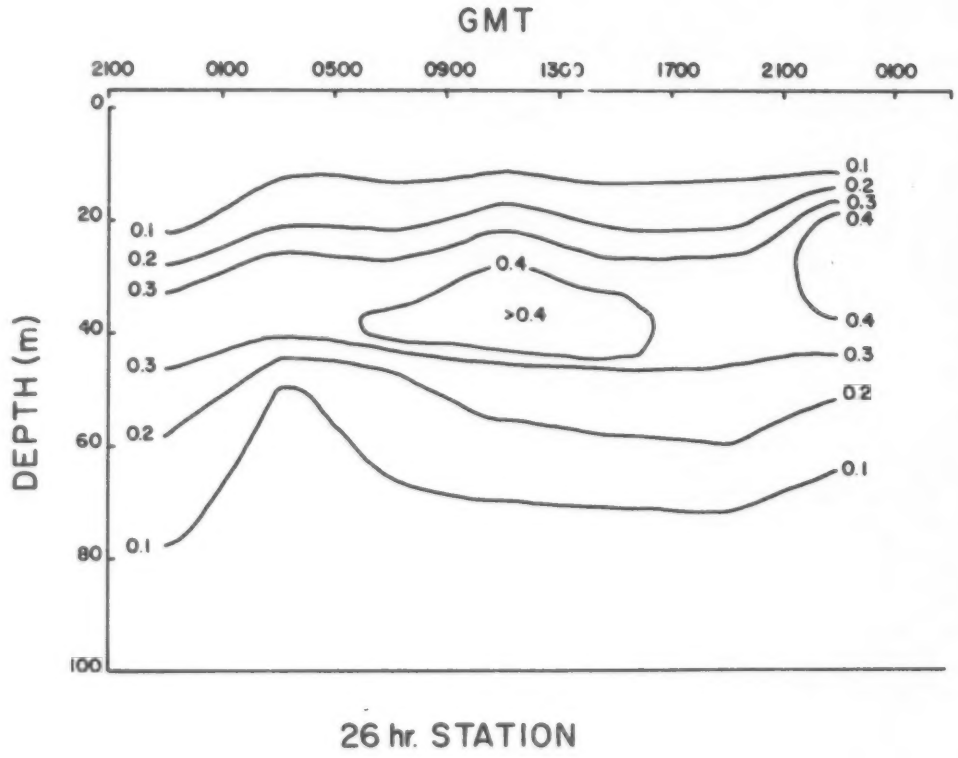

Fig. 21. Nitrite concentrations (mg-at m^{-3}) at 63°25'W 42°40'N between 2100Z May 4 and 2300Z May 5.

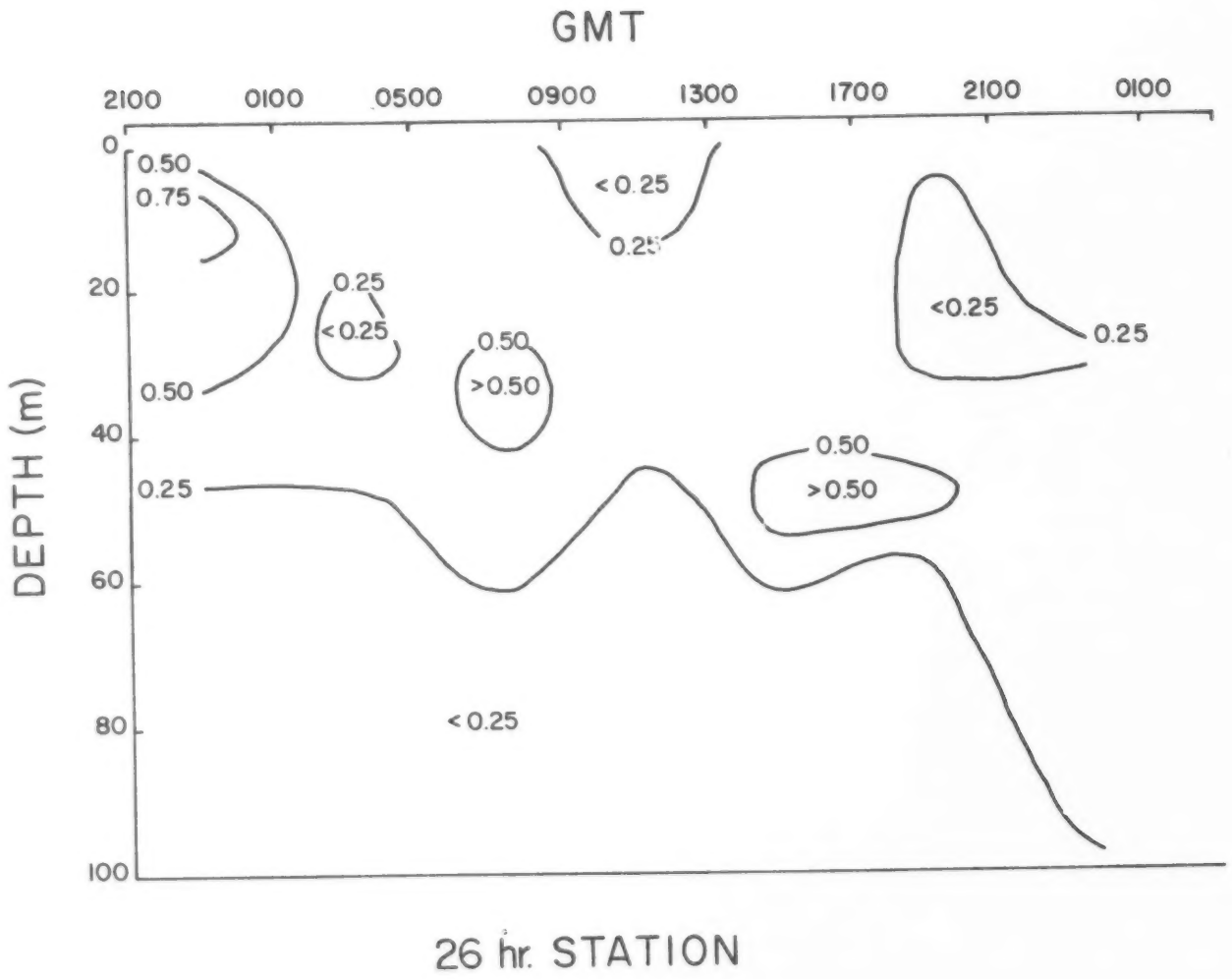

Fig. 22. Ammonia concentrations (mg-at m^{-3}) at 63°25'W 42°40'N between 2100Z May 4 and 2300Z May 5.

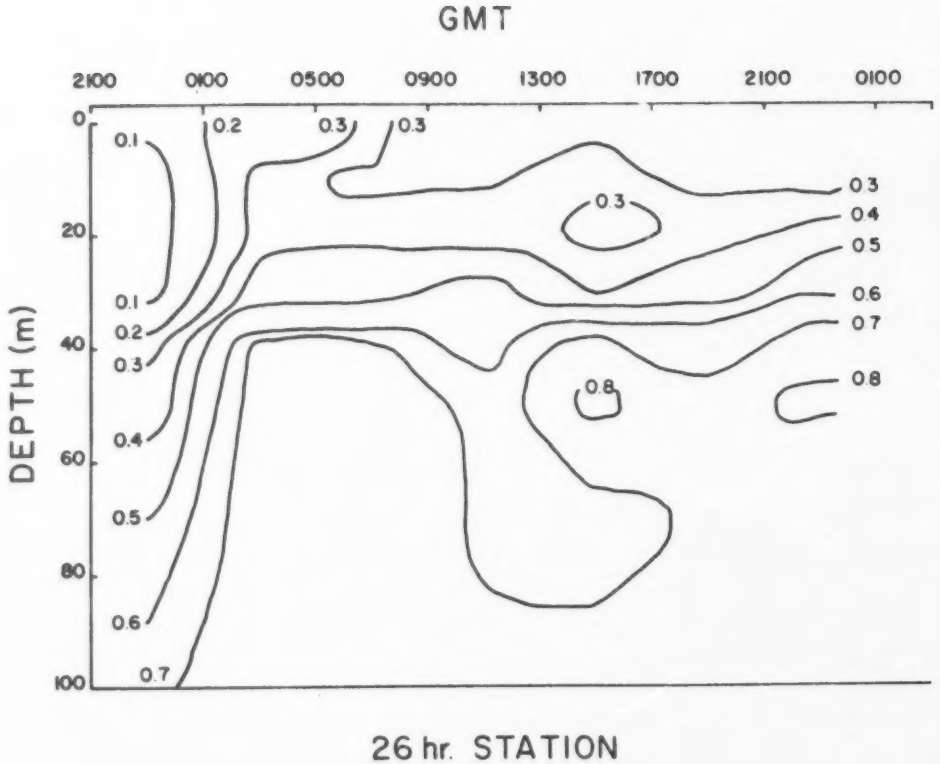

Fig. 23. Inorganic phosphate concentrations (mg-at m^{-3}) at 63°25'W 42°40'N between 2100Z May 4 and 2300Z May 5.

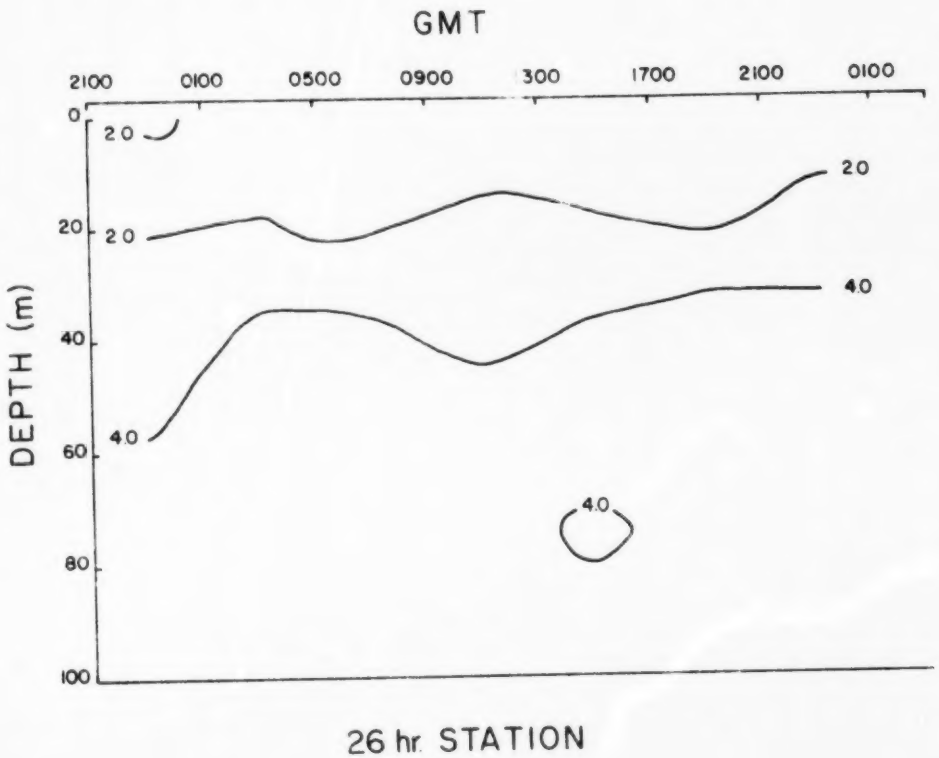

Fig. 24. Silicate concentrations (mg-at m^{-3}) at 63°25'W 42°40'N between 2100Z May 4 and 2300Z May 5.

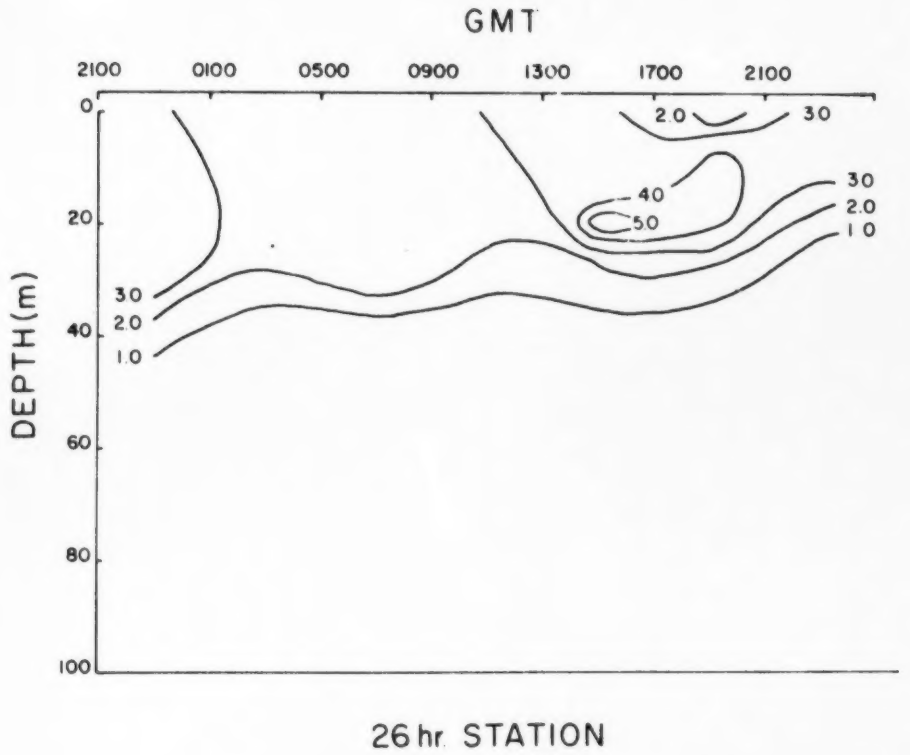

Fig. 25. Chlorophyll concentrations (mg-at m^{-3}) at 63°25'W 42°40'N between 2100Z May 4 and 2300Z May 5.